DOCUMENT RESUME

ED 065 734 VT 016 482

TITLE Perspectives of Adult Education in the United States and a Projection for the Future.

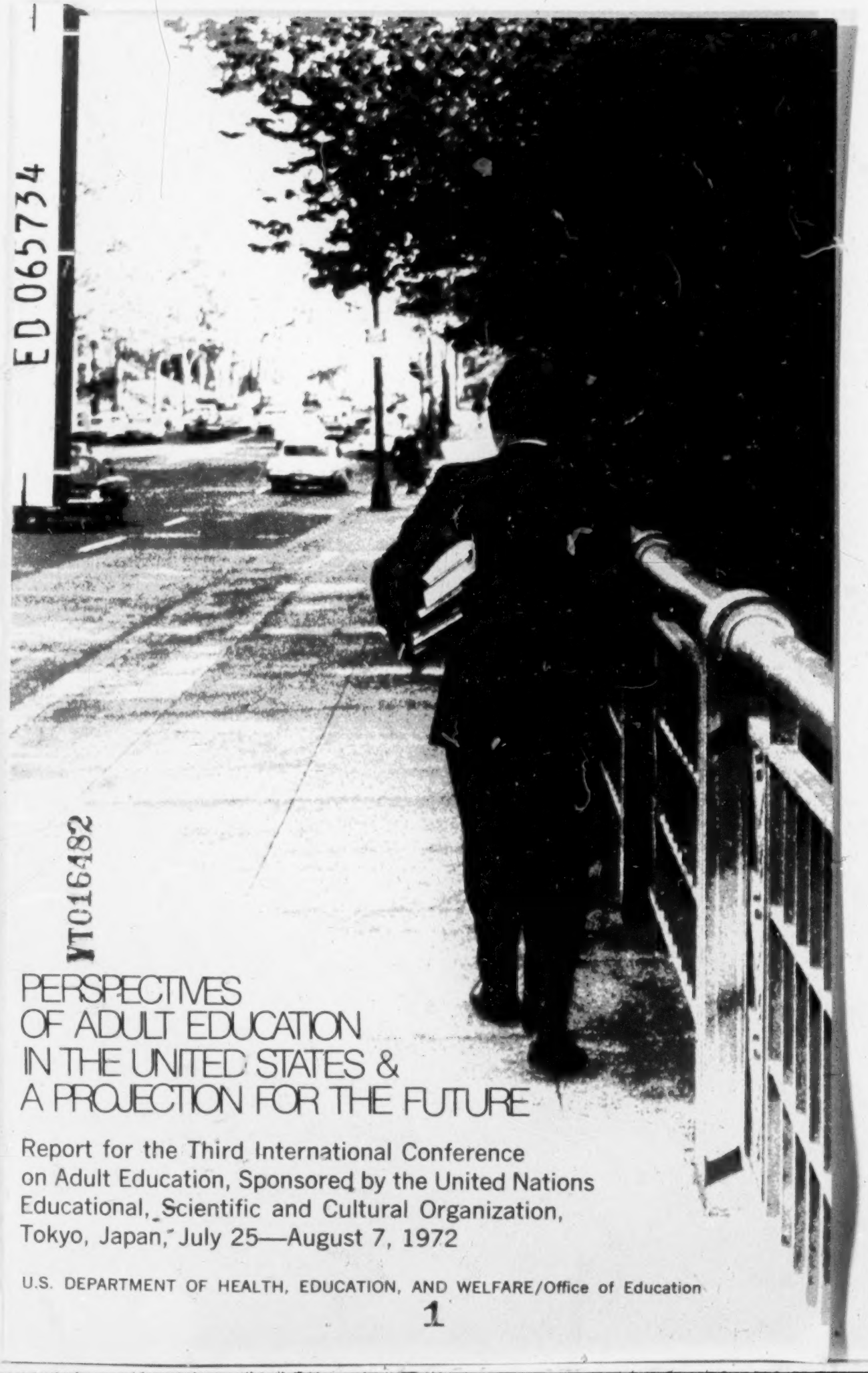
INSTITUTION Bureau of Adult, Vocational , and Technical Education (DHEW/OE), Washington, D.C.
REPORT NO DHEW-OE-72-181
PUB DATE 72
NOTE 74p.; Report of the UNESCO International Conference on Adult Education (3rd, Tokyo, Japan, July 25-August 7, 1972)
AVAILABLE FROM Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (Catalog No. HE 5.213:13042, $.35)

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS *Adult Education; Adult Students; *Career Education; Change Agents; Comparative Statistics; Continuous Learning; Economic Factors; Educational Administration; Educational History; *Educational Innovation; Educational Needs; Educational Technology; *Government Role; Industrial Education; Manpower Development; School Industry Relationship; Student Characteristics; *Vocational Development

ABSTRACT

During the past decade of adult education, the concepts of career education and lifetime learning have increased in importance. Federal involvement in adult education has increased without a conscious sense of direction, and will undoubtedly continue to increase, leading to greater political pressures on administrators. On the other hand, the increasing number of Federal agencies involved in the areas of education and social welfare has brought the Federal Government closer to local communities than at any time in the past. Adult education needs more career-oriented personnel in order to help achieve the goal of increasing educational opportunities for all population groups. With continued progress, only about a sixth of the employed persons by 1975 will have received less than 8 years of schooling. As the characteristics of the labor force change, career education becomes even more significant: therefore the Federal Government has placed strong emphasis on restructuring the curriculum to integrate career orientation. The coming decade promises massive growth in adult education. This report provides an assessment of adult education--its history, success, relationship to the economy, and innovative trends. (CD)

ED 065734



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PERSPECTIVES OF ADULT EDUCATION IN THE UNITED STATES & A PROJECTION FOR THE FUTURE

Report for the Third International Conference on Adult Education, Sponsored by the United Nations Educational, Scientific and Cultural Organization, Tokyo, Japan, July 25—August 7, 1972

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE/Office of Education

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PERSPECTIVES OF ADULT EDUCATION IN THE UNITED STATES & A PROJECTION FOR THE FUTURE

Report for the Third International Conference on Adult Education, Sponsored by the United Nations Educational, Scientific and Cultural Organization, Tokyo, Japan, July 25—August 7, 1972

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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DHEW Publication No. (OE) 72-181

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Superintendent of Documents Catalog No. HE 5.213:13042

U.S. Government Printing Office
Washington: 1972

For sale by the Superintendent of Documents, U.S. Government
Printing Office, Washington, D.C. 20402 - Price 35 cents
Stock No. 1780–1025

Preface

"The secret of mastering change in today's world is to reach back to old and proven principles, and to adapt them, with imagination and intelligence, to the new realities of a new age."

RICHARD M. NIXON,
January 1972

The thrust of education in the United States is an application of the President's formula. It seems to me that one of the basic components of a healthy society is that its citizens are engaged in meaningful work—work which serves the needs of society, work which utilizes the skills and engages the mind of the individual, work which provides remuneration which enables the worker and his family to enjoy a comfortable life and the opportunity for self development and fulfillment.

These, I submit, are "old and proven principles," but they have become increasingly difficult to attain in a complex and urbanized society. Career education, which I conceive to be a vital component of a viable educational policy, is receiving a great deal of attention from the educational community in the United States. The concept of Career Education, as President Nixon has said, is based on the principle that a complete and meaningful education should include the opportunity to learn about the world of work. We think that a career education approach will cope effectively with the realities of the 1970's.

The United States Office of Education will initiate career education concepts early in the student's life and will implement it universally throughout the years of formal learning and employment. To meet the "realities of a new age"—realities which change with increasing rapidity—we seek to provide more and better career education for adults.

Career education and life-long learning meet a basic need; they also enable the adult better to cope with the changes in our society, changes which are so close in sequence and vast in scope that formal education starts to become obsolete before the diploma is conferred.

We in the United States face a multitude of other educational dilemmas, all relating to enabling the adult citizen better to govern himself and per-

form his roles as they relate to the economy, to self governance, to equity and justice in our society, and to human fulfillment.

This report seeks to provide for the adult educators of other nations a brief historical perspective and an examination of current adult education in the United States and some thoughts as to its future.

Some of you may wish to learn more about ideas and programs which are mentioned in this brief document. If you visit the United States, we will help you to see what interests you. If you cannot visit us, we shall be glad to provide you with supplementary information. Finally, I welcome any comments from you which this report may suggest.

S. P. MARLAND, JR.
U.S. Commissioner of Education

ACKNOWLEDGEMENTS

The content of this publication was developed by the U.S. Office of Education. The Office of Education wishes to acknowledge the contribution of the Adult Education association of the U.S.A. and the following members: Leonard Nadler, Glenn Jensen, Kenneth Stokes, Roger DeCrow and Eugene I. Johnson.

In addition, Warren Ziegler and Michael Marien of the Syracuse University Research Center performed valuable research services.

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Introduction

Adult Education Faces the New Realities of a New Age

This report seeks to inform the reader of where adult education in the U.S.A. is now, how it got there, and what its future might be. It does not attempt to be an inclusive or quantitative record of the last 10 years. It does provide an assessment of adult education within the diversity of our pluralistic society.

A philosophical tenet of adult education in the United States is that a well-informed citizen of a nation is likely to be a better citizen of the world. A good deal of instruction in international affairs and information about the life styles and problems of other nations, as well as instruction about life styles and problems of this country, is provided by adult education in the U.S.A. Many adult educators in this country believe that the man who has learned to live at peace with his neighbors is more likely to live at peace with his fellows in the global community.

Adult education is also founded on the tenet that the responsibilities a citizen bears during adulthood are too important to permit society to abandon him to his own resources once he leaves the high school classroom or college campus. Education must be continuous throughout life, assisting the individual to cope with his problems and with the problems of society. Accordingly, we shall show how adult education seeks to help an individual cope with the problems he faces in his several roles as a U.S. citizen.

Adult education is discussed in its relation to man

(1) as a wage earner, a producer and consumer of goods, and a performer of services;

(2) as a politician, a citizen who governs himself and seeks to shape the society and the environment in which he lives;

(3) as an individual and as a person seeking self-fulfillment; and

(4) as a member of a family and as a parent, as well as a member of society.

Some quantitative measurements are also given. How many adults study and what do they study? Who teaches them? How are they taught? How is the United States dealing with special problems of the undereducated, the poor, the geographically isolated, blacks, Indians, non-English speaking, veterans, those who need rehabilitation from crime, drugs, or alcohol? Some

qualitative measurements are made in discussing the advantages and disadvantages of an adult education operation which is as pluralistic as our society and which lacks direction from any central authority. An appendix provides quantitative information on the diversity of adult education in the United States.

Finally, a glimpse at the future is attempted in order to anticipate some of the effects of the forces which have been at work during the last 10 years at an ever-increasing tempo.

Part I—The Adult Participant

ADULT EDUCATION—ITS DIVERSITY AND SCOPE

A Pluralistic Society Is Served by Pluralistic Education

Adult learning in the U.S.A. is a mode of human behavior which cannot be, and indeed never has been, restricted to formal schooling. It takes place under a variety of conditions and situations which call for new skills, understanding, and insights in response to a changing human environment. The history of the United States can be understood as the attempt to manipulate, change, and rework the human environment. The future history of the United States will also mean a changing human environment in which continuous learning throughout the life span will represent an absolutely essential ingredient for personal survival, effectiveness, and fulfillment.

Adult Learning and Adult Education: A Preliminary Distinction

In this report we shall attempt to draw a clear distinction between adult *learning* and adult *education*. Adult *learning* is a major, continuing mode of adult behavior permeating the major categories of human experience and the major sectors of society. It takes place in a "natural societal setting." Adult *education* refers to organized and sequential learning experiences designed to meet the needs of adults. It takes place in the context of "learning organizations." To be sure, all adult education then involves adult learning, but all adult learning is not adult education.

Adult education in the United States is local in nature. It is not a division of a national ministry of education adminstered by the central government, but rather a complex mixture of private and public, national and local organizations operating under the law of supply and demand. It is a strong force in helping the citizens of the United States govern themselves, but it is not an authoritative arm of the Federal Government. The Federal Government helps to shape national policy, not by fiat but by leadership and some financial assistance.

This situation, which differs from the role and direction of adult education in many other nations, should be kept in mind as the reader interprets this report on one of the U.S.A.'s most turbulent decades. It has been argued persuasively that the "sixties" saw more social problems identified,

analyzed, and attacked than in any other decade of our history. In many areas national commitments were made that required greater resources than were available.

The United States faced up to poverty and illiteracy—among rural whites and rural blacks, the urban north, among the Indians, and the non-English speaking. The 1960's witnessed our final transformation from a country of farms and small towns to an urbanized Nation. It saw our economy less and less concerned with the production of goods and more concerned with the performance of services.

U.S. citizens were forced to face the fact that we were close to the point of no return in uncontrolled use of our national resources; we could not ravage the environment and move on to a frontier of pure air and water and untapped resources.

A Nation proud of its technical knowhow found it easier to send men to the moon than to stamp out illiteracy in its own communities. And it began to question assumptions that getting to the moon was more urgent.

The Nation discovered that it did not know as much about education as it thought. It discovered that spending more and more on education didn't mean better and better—and besides, the citizenry was becoming more and more reluctant to increase the expenditure of public funds for education.

This raises several questions: How far should we extend compulsory education beyond age 16? How far should we extend the opportunity for free classroom education? Can we continue to divide "higher education" and "adult education" into separate components of postsecondary learning?

The 1960's was a decade in which the concept of remedial activity became a significant component of adult education. It was a time when adult basic education and job skill training were given an impetus greater than ever before.

Mass communications is an aspect of American life difficult to fit neatly into this report, because it relates primarily to adult learning rather than to adult education. However, its effect on adult education must be understood.

Dissemination of information and opinion and advocacy is conducted on a vast scale in the United States. The variety of materials broadcast and printed is impossible to catalog. Broadcasts are so pervasive that most citizens receive each day hundreds of items of information and persuasion. There is probably less control or central direction of this activity than in any other developed nation. There is no national government operated broadcasting system. Freedom of the press permits widespread advocacy of minority views.

An understanding of America's communications apparatus brings one to the problem of separating information from knowledge, of differentiating between learning and being taught, and of illuminating the complicated relationship between these.

This leads us to a word which we have invented and which may provide

a thread of continuity and consistency to adult education in American—"copeability."

"Copeability" was once as simple as learning to read and write and compute, to lay bricks and to hew wood, and to join together to build a school for the children and a road to the next town. In the postindustrial society, "copeability" must be continually defined to meet the rapid societal changes.

In a national survey conducted in 1971, it was estimated that 21.2 million adults (about 10 percent of our population) lacked reading skills at the "survival" level, such as the ability to read the telephone book or fill out a simple job application. A national adult education research project is currently being conducted to determine the performance requirements for adults in a postindustrial society. These requirements will be described in terms of reading, writing, computational and coping skills. Results of the survey will be available from the U.S. Office of Education in 1973.

Yet, while we have not found time to define "copeability" as clearly as we eventually will, it is an understandable concept even without precise description, and we shall find that it provides a continuum between our early history, events of the recent past, and our projection of what the future holds.

A concept of adult education which is related to "copeability" is that the scope of and need for adult education increases in a geometric progression as our society grows more complex.

During the past 10 years, as we have completed the change from rural and small town life to an urban society, this geometric progression has placed heavy demands, both quantitative and qualitative, upon the adult education resources of the country. No lessening of these demands is in sight. The problem is world wide in varying degrees of urgency.

Earlier some of the traumatic societal changes of the last 10 years were mentioned briefly along with the Nation's response. Adult education was at the center of all of this, although it was not the center of attention, nor was it the first priority in our educational efforts.

Adult education was a strong factor in raising the expectations of the disadvantaged, and it was also a tool in meeting some of these new expectations. It helped create a widespread desire for self-fulfillment—a feeling that there should be more to life than producing products and consuming them—and it helped millions of citizens toward this fulfillment.

Minority groups asked for their fair share from our society. Such movements as women's liberation, a demand for day care centers for children, and neighborhood control of schools were among the results. So were the "underground press" and free universities.

Two educational concepts grew stronger during the decade—career education and lifelong learning. The concept of career education is not based merely upon a need for new job skills but upon a recognition that for most of our citizens a meaningful and productive work experience is essential to

self-fulfillment. While the concept of lifelong learning recognizes the immediate need of many persons to upgrade their skills, it is also based on the recognition that learning can be a pleasure, a form of recreation.

ADULT EDUCATION AND THE DEMOCRATIC PROCESS

Providing the Knowledge and Skills Needed in a Government of the People, for the People, and by the People

Effective self-governance requires that our electorate have what might be called minimum citizenship skills. Thomas Jefferson held that a free society must be an educated society and that educated citizens would preserve their freedom.

The concept was developed that "reading, writing and arithmetic" should be made available to every child who was born outside of slavery, that the opportunity for free elementary and secondary education should be available to all. This was followed by the concept that schooling should be mandatory up to certain ages and levels of achievement. This in turn was upgraded so that in most parts of the country schooling is mandatory to an age where the pupil should at least be partially through the secondary curriculum, or about 16 years of age. As a result, by March, 1971, there were 80.5 million high school graduates in the United States. Nearly 32 million of these graduates had also completed one or more years of college work.

As our society and our problems of self-governance have become increasingly complicated, our educational sights have been raised. In some States, there is legislation which provides, in principle at least, that every child shall have the right to a free education through the bachelor degree level.

At the same time that the Nation sought to increase the level to which its children were to be educated, the opportunities for adults to obtain more education were also enlarged.

Adult political learning assumed a variety of forms—the stump speech, the debate between candidates on the courthouse steps, the partisan press, the leaflet and the newspaper advertisement, the radio chat, and a wide variety of pamphlets and brochures. Now television has become a major instrument of political adult learning. At the same time, the political parties began organized efforts to educate their more active partisans in techniques of persuasion and on political issues.

The American society today reflects the wisdom of the basic Constitutional guarantee of the right of citizens to assemble to protest grievances against their government and the right of the press to print with complete freedom from government dictation. As long ago as the founding of the Republic and as recently as yesterday, Americans have received from the mass media information about the operations of their government that is not available to the citizens of many other countries. The scope of reportage of

government and politics which is available to every American who can hear a radio or watch TV is a form of adult learning that is not available in many nations, either because of a paucity of communication delivery facilities or because of government control of these facilities, or both.

Almost from the beginning, the U.S.A. was divided into political parties which tended to offer the voter a choice of two competing programs and ideologies. These parties argued for their proposals, and this constituted a form of adult learning, despite the heavy content of argument, persuasion, and propaganda. If the elite of the two parties differed over whether to have a high tariff or a low tariff, many voters were forced into learning something about economics.

The immigrant groups which came from Europe in the 19th century were regarded as a source of cheap manpower. Adult education sought to make them economically viable but it also instructed them in citizenship and attempted to orient them to our form of government. As they became citizens, political parties sought their votes, and learning was one of the things provided to them in this competition. They also banded into ethnic groups and provided their own adult learning activities.

Populism, a movement and concept much discussed today, was a form of adult learning. It sought to persuade the citizen with little wealth or education that he had a right to more voice in the government and that his government should provide him with more opportunity, more education, a greater share of the returns of our national labor. Printed materials used in movements such as populism and many other forms of political education and persuasion were inexpensive and pervasive and were not as limited in distribution to the "educated" and "upper" classes as they were in many other countries. The growth of free basic education for the young and for adults made this printed material a far more effective form of adult learning than it was in countries where the right to read was an inherited privilege of the few rather than the birthright of every citizen.

As groups have achieved more political power they have used it to advance their economic and educational opportunities. In turn, economic and educational progress has enabled these groups to apply greater political force. It is perhaps pertinent to say that there is growing acceptance of the concept that our political process will be more likely to cope with the increasing complexity of our society when we extend our educational "bill of rights" to include the opportunity for lifetime learning.

Americans have long been joiners and organizers and not long after they organized political parties—a concept not held by the founding fathers—they began to band together in a wide variety of organizations designed to espouse a special cause, either for their own special interest or for what they conceived to be the national interest. All of these engaged in two forms of adult learning. One form was to enable their own members to function more effectively; the other was to educate or persuade the citizenry to join in accomplishment of their goals. Groups which have so organized and con-

ducted adult education operations include farmers, merchants, manufacturers, veterans, women, blacks, and other minorities, members of such professions as medicine, law, and education. Billions of dollars are spent on adult education operations today, and millions of people are reached by these activities.

Women did not have the right to vote in the United States until 1920. Soon an organization called the League of Women Voters was formed to conduct an adult education program on the political process for women. It did not take the women very long to learn that the male voters were also in need of political adult education, and the League included them in its programs. Now, 52 years after women got the vote, many of them are seeking to use their votes to obtain equality with males. This changed attitude and perception of woman's role has developed a great interest in adult education programs of various sorts, including those intended to permit women who have married to reenter the job market.

Finally we shall mention the recent lowering of the voting age to 18. Thus, for political purposes, adulthood begins at 18 and so does adult political education. This presents a new challenge for adult education.

ADULT EDUCATION AND SELF-FULFILLMENT

The growth of increased leisure time can be equated fairly close with the growth of adult education activities designed to enrich the mind and spirit rather than the pocketbook. Adult education in the classroom and the lecture hall did increase as income went up and working hours went down. Many forms of self-fulfillment became increasingly available to more and more citizens in the 1930's. However, it was only in recent years with the development of more affluence and increased leisure that such educational activities became widespread in the United States.

Abraham Maslow, an American psychologist, suggested that each person has a hierarchy of needs. Maslow classified these as: physiological, safety, love and belonging, esteem and self-actualization. In this hierarchy, Maslow proposed that only as needs at a lower level are met does the individual attempt to satisfy higher needs. Of great implication for the adult educator is Maslow's contention that the adult clamors to use his capacities, and if he doesn't have this opportunity his capacities are likely to atrophy.

Thus, adult educators must concern themselves with the individual's quest for identity, the quest for community, the proper uses of fraternity, the assumptions which underlie problems created by bureaucratic behavior, and the reeducation of persons in human relations.

American society has been undergoing profound changes. The issues of Civil Rights, the impact of automation, the problems of affluence and poverty have been "front-page" concerns and, because of their moral and ethical overtones, they have become priority concerns for members of the reli-

gious communities also. Religious adult education increasingly has sought to relate the fundamentals of faith and belief to the problems of the day-to-day world. According to a 1969 study of participants in adult education, 4 percent of approximately *20 million courses or activities* cited were reported by religious institutions as organized non-worship instruction.

The marked change that appeared in many religious institutions of the 1960's came about because people began talking together—about their faith and their personal problems and their corporate problems—and then began taking action. For the most part, much of the pioneering in new forms of adult education in the churches is taking place in the local church where a creative ministry and laity are combining their efforts to develop programs which speak to the needs of the times. Hundreds of churches of many denominations around the country have developed and continue to experiment with a variety of forms of adult involvement in the process of learning and doing.

Many churches attempt to solve community problems and contribute to adult education by sponsoring adult basic education classes.

Increasingly, churchmen are relating themselves to centers of continuing education which are not religiously oriented in the traditional sense. One such center seeks to "explore those trends in the behavioral sciences, religion and philosophy which emphasize the potentialities of human existence." It conducts a year-long program of seminars and human relations laboratories on a wide variety of topics.

Public libraries and museums provide a collection of materials essential to a community of men striving for self-fulfillment through adult education. The library adult education movement from the 1920's through the 1930's focused on the advisor guiding the reader in individual reading programs. During the 1940's and 1950's, library adult education turned to group discussion of human values and social problems through such programs as Great Books Discussion, American Heritage programs and Great Decisions. Beginning in the 1950's and carrying through the 1960's, the adult education programs of public libraries refocused on the study of the particular needs of special groups in the community.

Public library programs of outreach to the disadvantaged have tended to emphasize reaching young adults, recognizing that the unreached adult is truly the "hard-core" of the problem. Film showings about books and community resources to meet pressing adult problems have been successfully developed for mothers of preschool children in Head Start programs throughout the country.

In 1965, a survey of museum use made by the American Association of Museums found that museums were conducting formally organized classes and lectures for 4,500,000 adults. About 14 percent of museums reporting had programs for adults.

The National Endowment for the Humanities created as a Federal agency in 1966 has maintained that effective educational programs for the

general public should be channeled through all institutions and agencies that have an educational mission. Thus it has made grants to television stations, newspapers, libraries, museums, as well as public schools and institutions of higher education.

The term "humanities," as defined in the National Foundation on the Arts and the Humanities Act of 1965, includes, but is not limited to, the study of the following: "language, both modern and classical; linguistics; literature; history; jurisprudence; philosophy; archeology; the history, criticism, theory, and practice of the arts; and those aspects of the social sciences which have humanistic content and employ humanistic methods." The Endowment is also authorized to support "the study and application of the humanities to the human environment."

In 1970, the Congress added ethics and comparative religion to the fields supported by the Endowment and included in the statutory mandate "particular attention to the relevance of the humanities to current conditions of national life."

In 1968 the National Council on the Humanities stated, "The present crisis of American society leads the National Council on the Humanities to reaffirm that the humanities ideally are always relevant to the condition of man, and of man's society. It therefore wishes to encourage, in addition to significant studies and works in the familiar humanistic tradition of pure scholarship and general knowledge, appropriate project proposals within the various fields of the humanities which are concerned with values as they bear on urbanization, minority problems, war, peace, foreign policy, problems of government decision, civil liberties, and the wider application of humanistic knowledge and insights to the general public interest. The Endowment will continue to support more traditional studies in every humanistic discipline."

This past decade has also seen a great awakening by many citizens to the forces shaping their life. This has been manifested by a keener sense of awareness than ever before. It has resulted in the development of significant movements among consumers, the aging, women, civil libertarians, and environmentalists. Each of these movements has generated its own adult education component.

DESCRIPTION OF PARTICIPANTS

The adult education administrator serves a wide variety of clients in various locations. The learning objectives of his clientele vary. Their diverse motivations for continuing education presents both a unique opportunity and potential teaching problem to the adult teacher or counselor. Accordingly there has been a trend to tailor the instruction to the individual needs of the adult at his or her particular stage of development. The following information from the *Initial Report*: *Participation in Adult Education,*

1969, produced by the U.S. Office of Education from a sample of 105,000 persons, presents an over-view of the adult clientele. (See Appendix for detailed charts.)

Among the estimated total U.S. population of 130,314,000 persons age 17 and older, 10.1 percent participated in adult education, 8.1 percent were full-time students, and 81.8 percent did not engage in any formalized education during the year ended May 1969. Of the 119,719,000 eligible population (i.e., excluding full-time students), 11.0 percent participated in adult education.

Although women outnumbered men both in the total population age 17 and over and in the population eligible for adult education, more men participated in adult education; 12.6 percent of the eligible men took adult education, compared to 9.6 percent of the eligible women.

Blacks were 9.7 percent of the total population age 17 and over but only 7.5 percent of the total number of participants in adult education. Whites comprised 89.3 percent of the total population but represented 91.5 percent of the total participants. No participant data is available covering Spanish-speaking adults, of whom there are some 12 million in the United States.

More than half the persons aged 17 through 24 were students, with 40.5 percent studying full time and 10.7 percent participating in adult education.

The rate of participation in adult education dropped from 18.2 percent of the eligible population under age 35 to 7.7 percent of those aged 35 and over. Except for the youngest age group, 17 through 24, nonparticipants were fairly equally distributed for all age categories.

For those under age 35, 24.1 percent of the eligible white men participated in adult education, while 10.9 percent of the eligible black men took adult education. In comparison, 14.8 percent of the white women and 13.2 percent of the black women participated.

Of the total participants in adult education, white men age 25 through 34 comprised the greatest percentage, 18.1; and of these, the greatest percentage, 37.7, were in job training.

The three most popular sources of adult education showed little difference in utilization by the estimated 13,150,000 participants; public or private school, 27.7 percent; job training, 27.5 percent; and college or university part time, 25.2 percent. Participation in the remaining instructional sources was much less; community organizations, 13.4 percent; correspondence courses, 8.0 percent; tutor or private instructor, 5.8 percent; and other adult education, 10.3 percent. (The totals add to more than 100.0 percent due to multiple participation.)

A study completed by the National Association for Public Continuing and Adult Education in 1971 indicated that 4,979,313 adults were studying adult basic education, high school education, business, and general adult education in 1969–70 in public schools.

A more complete profile of the adult education population and details of

adult education activities will be provided after recent census data are processed.

Soundly based data collection and analytical systems, at all levels, are one of the deficiencies of adult education. This is of great concern to adult education and is one of the priorities of State and Federal educational agencies. Until these systems are perfected and implemented, data on participants and programs will at best be limited.

Part II—Adult Education and the Economy

THE ROLE OF BUSINESS AND INDUSTRY IN PROVIDING ADULT EDUCATION

The kinds of programs offered employees vary greatly, but the major emphasis is on job-related activities. Companies usually have some form of induction and orientation programs for new employees, ranging from one-hour lectures to programs extending over a period of several months. No one model satisfies all the needs, but there appears to be general agreement on the desirability of a well-organized and conducted induction and orientation program.

Closely allied are opportunities for training in job-related skills. These encompass such areas as machine operation, sales, and office procedures. In many cases, the personnel department will have hired persons who have the minimum skills for entry but require additional training to achieve desired skill on the particular equipment used by the employer. A typist, for example, may be able to meet the minimum standards for employment but may never have typed on a particular machine nor have used the particular dictating equipment available in his or her new office. An organization may hire an employee with an engineering degree and then devote considerable time to helping the new employee relate his education to the requirements of the new job. No criticism of the educational system is implied, but rather recognition that differences in specific skill requirements are great among employers.

For many years we have had apprenticeship training, and this practice proved satisfactory during our emerging years as an industrial Nation. Apprenticeship training is still with us today, but the changing labor force indicates the need for newer approaches to keep apprenticeship training a meaningful method of entry into the labor market. At the other end of the work force is the costly training of the supervisors and managers who have become crucial to the growth and survival of organizations.

Training for customers is one of the changes resulting from the impact of technological advance. Products have become more complicated, requiring manufacturers to provide training for their customers on installation, operation, and maintenance of their product. Since World War II, purchase contracts awarded by the defense establishment have usually included provi-

sions for the supplier to provide training to the government using the equipment. In the consumer products field, training programs may be conducted by a specific company to encourage customers to use their products. There are department stores in which auditoriums are available for consumer training conducted by store personnel or by manufacturers' personnel using the store facilities.

Training conducted for customers may take place on the customer's site or at special schools provided by the manufacturer. Telephone companies throughout the country have a packaged program they will bring to the office or plant of a subscriber to train personnel in telephone manners and telephone usage. Training for switchboard operators on the specific type of equipment installed in the subscriber's office is usually held in a special training facility attached to the telephone company. Firms in the field of electronic technology have customer schools in strategic cities throughout the United States.

Another emerging clientele group is the trainer's own organization. The way man is organizing to get his work done is rapidly changing. Organizations are discovering they must develop greater flexibility and be more amenable to change than in the past. New needs are becoming evident for the organization as well as for the individual. As this chapter is being written the approaches to organization development are still in their infancy and it is not possible to foretell directions, but the concept of the organization as a total system needing education and development is a challenging one.

Some companies have begun to train persons who are not employees, customers, or representatives of the organization. An outstanding example is the involvement of some of our leading companies in establishing Urban Job Corps Centers. The expertise of companies in training their own employees has been brought to bear on the needs of individuals who are not yet in the labor market and who would not be able to enter without special assistance. Most of the activity in this area has resulted from government contracts under legislation concerned with poverty and civil rights.

Methods and Techniques

When one realizes the variety of situations and personnel involved in adult education in business and industry, it is not surprising that the methods and techniques likewise present a wide spectrum. The mobility of trainers and the lack of cohesion in the field have made it highly susceptible to gimmicks. The training director is constantly beset by an overwhelming tide of literature and salesmen offering him the answer to all of his training problems. All too frequently the products and gimmicks being offered to him are poorly researched and inadequately field tested. Despite the variety of pressures, trainers have been remarkable in their efforts to provide valid educational experiences.

A way of looking at the methods and techniques of trainers is through

(1) group learning situations, (2) individual learning situations, and (3) the impact of educational technology.

The organized class is the most prevalent form of group learning in business and industry. For purposes of scheduling, control, and budget a group learning situation in a classroom is by far the easiest to administer. The methodology ranges from the lecture to the laboratory. There is a trend toward actively involving the learner in the learning process. Particularly, the training of supervisors and managers has relied heavily on simulation, role-playing, gaming, and sensitivity training.

Extensive use is made of audiovisual media, particularly the 16mm film. Several companies are now engaged in producing films for use in training programs and regular Hollywood-made commercial films are also used. Commonly used equipment includes the overhead projector, the tape recorder, and more recently, the videotape recorder.

The most frequently used method for individual learning is on-the-job training (OJT) which is a system whereby the learner is counseled and coached while he works. In an OJT program there should be a regular sequence of tasks to be performed. The learner does not proceed to more complicated tasks until he has mastered the accepted standards on the earlier ones. OJT is used not only for new employees, but also to teach employees new procedures, product lines, or technology. It is usually under the direction of a supervisor and only infrequently is a regular trainer used.

The assignment of reading materials is another way to provide for individual learning. This is particularly helpful where there is specified printed material which the learner needs to become familiar with in order to perform efficiently. Safety rules, company policy, and department directives can be learned in this fashion. Managerial literature and periodicals might be on the reading list for a group of managers, who now have a flood of material directed to them. Evaluation and feedback must be built in so the learner and his supervisor can be assured learning has taken place.

Job rotation is frequently used to enable the learner to prepare for a higher level job or to gain knowledge of other aspects of his own job. The objective may be for the learner to experience the process of production before products reach his work station or the disposition of the product after he has accomplished his work. A dramatic and effective use of this technique was during World War II when aircraft mechanics were required to fly in the planes on which they had worked. Job rotation requires a good deal of advance preparation and provision for evaluating the learning that has taken place. As a technique for individual learning it is extremely effective but quite time consuming.

Training Adult Educators

Training Organizations—Few membership organizations have been concerned with adult education in business and industry as a major focus. However, there are membership organizations in a variety of areas which

make certain provisions for their members who have an interest in training. The major, and possibly only, organization concerned specifically with trainers is the American Society for Training and Development (ASTD). The Adult Education Association of the USA has made provision within its structure for trainers, and other organizations have likewise developed organizational forms to meet the needs of trainers in their ranks.

The ASTD was formed in 1942 by various State training organizations then in existence. By the end of 1968 it was well on the way to 8,000 members, but it is estimated that this is still far below the number of persons engaged full-time in the field of training. ASTD's national office provides services to local chapters and a few overseas chapters composed largely of American trainers serving with companies or with government agencies.

The Adult Education Association of the USA has long contained within its ranks members who are involved in adult education in business and industry. In 1958 this group set out to clarify its objectives and to explore its relationship with other organizations concerned with the problems of training directors. One positive result was the formation of a special interest section at the annual AEA conference. However, it has not yet found its role in the total context of adult education, although it is quite likely the growing interest of trainers in adult education, and adult educators in training, may well prove the impetus needed for this group to become a vital force in the professionalization of training.

Effect of National Manpower Policy on Adult Education

The past decade witnessed an even greater involvement of the Federal Government in both the design and implementation of a larger number of manpower programs aimed at providing training and work experience for unemployed and underemployed workers. In addition, the Government has financed national programs which, because of their scale and scope, have had major impact on the demand, supply, and utilization of key occupational groups. However, most of these Federal adult education programs were developed and implemented without full understanding of the ways they impinged on each other and on the structure and functioning of the American economy. A summary evaluation of the experience gained during the decade follows:

1. At the beginning of the 1970's there is increasing recognition that manpower training is needed to achieve high employment and price stability. The contributions of manpower training programs to the country's economic and social objectives are still being evaluated. The optimum scale and composition of manpower programs and how they can be integrated most effectively with broader economic policies are issues which also needed additional exploration. Nevertheless, there is mounting evidence that manpower training can help overcome the structural barriers which limit the effectiveness of fiscal and monetary

policies in reducing unemployment without generating inflationary pressures.

2. The last decade has witnessed widespread experimentation by the Federal Government—in cooperation with State and local governments, employers, and trade unions—to provide second-chance educational and training opportunities for the unemployed or underemployed. In the process of establishing and expanding a wide array of manpower programs involving classroom and on-the-job training, school-work arrangements, work experience, and income maintenance, the Federal Government has made a major contribution to institution building. The public employment service system has been strengthened, new occupational training centers established, and the Nation's manpower research potential expanded. In the past 3 years, State and local governments have been encouraged and aided in developing a manpower planning and programming capability.

In the long run this broad institution-building effort may prove even more important than the specific training, income maintenance, and job placement assistance that the Federal Government has rendered the underemployed through its diversified manpower programs.

3. The Federal Government has come to dominate both the demand for the products and services of some industries and investment in these industries. As a consequence, changes in the rate of Government expenditures result in alterations in the demand for manpower, including scientific and other professional workers. Forced to respond quickly to external threats or shifts in domestic priorities, the Federal Government has been directly and indirectly responsible for large-scale fluctuations in the demand for manpower in certain industries.

4. When industries doing business with the Government are heavily concentrated in a particular region and when the contractor's employees account for a large percentage of the local labor force, a sharp reduction in Federal expenditures can have a serious impact on the community. This factor is taken into account in determining the location and assessing the importance of Federal installations throughout the country.

5. Program needs and objectives frequently determine where Government programs are located. The location of a priority program in a small community, however, implies substantial additional costs in attracting an adequate labor supply and in building the infrastructure required to support the burgeoning industry and population, besides making the booming community vulnerable to a later reduction in Government outlays. Within the limits imposed by considerations of operating efficiency and economy, there is scope for preventive action by a Government sensitive to manpower concerns and cognizant of the dynamics of local labor markets.

6. The 1960's demonstrated that over a period of time large-scale

Federal expenditures tend to add to the supply of competent persons through on-the-job training and upgrading. This has been true in companies with defense and aerospace contracts, where large numbers of technicians were drawn up into the ranks of professional engineers and many professional workers added to their competence through additional education and experience.

The contracts with Federal agencies encouraged universities to expand their efforts in basic research for the education, training, and employment of additional large numbers of young people. The expansion in the supply of trained manpower was an essential ingredient in the rapid expansion of the national research effort.

As can be seen from this summary, manpower programs were responsible for developing a variety of adult education programs among which were the Job Corps, the Work Incentive Program, and the Concentrated Employment Program. These programs were conducted either by business and industry directly or by institutions of higher education and the public school systems working cooperatively with business and industry.

These programs in turn created a great demand for adult educators specializing in training, manpower development, and occupational education. Institutions of higher education responded with new curriculums and in-service training programs designed to meet this demand.

ADULT EDUCATION AND THE LABOR FORCE

Education is an important national objective because it is a means for the enrichment of personal life and a prerequisite for intelligent social and political participation in a complex society. Expanding educational opportunity has become the strategic ingredient for coping with poverty and racial discrimination. Viewed from the vantage point of the labor market, the educational system diffuses social and economic opportunity by educating and training people to become participants, or more productive participants, in gainful employment. In terms of national priorities, what are "requirements" from the perspective of manpower needs for national goals are "opportunities" for individuals seeking employment in a variety of occupations at various skill levels.

The growth in requirements anticipated in the 1970's in the range of occupations required for particular goals will occur in an environment in which economic, social, and technological changes will be making some job skills obsolete, and increasing employment opportunities for persons with other skills. Recent scientific and technological advances, for example, have made much of the professional education of the older generation of engineers obsolete, and the widespread utilization of electronic data processing has outmoded much of the traditional record keeping work performed by

clerks. Rising family incomes and greater leisure will accelerate the demand for better educated and skilled professional, technical, and service workers in many occupations. The net effect of the changes arising from all of these causes can be expected to enhance the role of education as a process of lifetime learning involving many institutions including high schools and colleges, centers for adult and continuing education, job training in industry, and the new programs in training and basic literacy education introduced by the Federal Government in the 1960's. The Nation's concern with the manpower implications of education is likely to increase in the next 5 or 10 years because of rapid growth in the number of young people making the transition from school to work.

Education as a Cause of Changes in Job Requirements

The relationship between education and the labor market is frequently regarded as one in which the educational system responds to changing job requirements. Changes in employment opportunities, from this point of view, are the independent variable, and the educational system's response is the dependent variable.

Yet it is apparent that the opposite is also frequently true. Rising levels of educational attainment have probably caused a number of shifts in employment requirements. One of our major goals has been to increase educational opportunities for all groups in the population. Accordingly, the educational level in the United States has been increasing rapidly in the recent past, and this increase is likely to continue. The median school years completed of the adult population over 25 years of age in 1971 was 12.2 grades and the median school years completed for the total labor force 18 years of age and over in 1970 was 12.4 years. While the upgrading of educational achievement has been generally characteristic of the labor force, it has been especially marked for blue collar workers and farmers—the occupations which have provided the bulk of the employment for persons with less than a high school education. As a majority of the employees in these occupations come to have at least a grammar school education, and many have high school educations, the individuals with lesser schooling will be at a disadvantage in obtaining employment.

By 1975 it is likely that only about a sixth of the employed persons will have an education of 8 years or less. The proportion of the labor force with 4 years of college or more is projected to increase but at a somewhat less rapid pace—from a tenth of the total in the early 1960's to a seventh in the mid-1970's. As the supply of better educated persons increases in virtually all occupational fields, the greater availability of these persons becomes an important factor in raising entrance requirements for many types of jobs. The college degree supplants the high school diploma regarded a generation earlier as the requirement for the more responsible white collar positions. Graduation from high school becomes the prerequisite for advancement to foremen's jobs, or for most types of work involving dealing with the public.

As the occupational composition of the labor forces changes in the coming decade, the significance of career education in job preparation is likely to become even greater than at present. The relevant training for white collar and service jobs involves an emphasis on developing a broad base of cognitive, communicative, and social skills—skills acquired through career education. Within industry, automation tends to shift employees' duties from work as operators of machines to work as monitors of complex controls adjusting flows of inputs and outputs. The requirements for these types of positions are judgment, reliability, adaptability, and discipline rather than technical expertise.

Beginning with the first position held for at least 6 months, the typical member of the labor force without a college education is estimated to hold 12 different jobs in a 46-year working life. Only one man in five can anticipate remaining in the same major occupational category for his entire life. Except for persons in the skilled craft, service, and white collar occupations, most workers in the non-college group do not have careers. They usually hold a series of jobs which are likely to be unrelated or loosely related. The education and training which is significant for these persons should increase their options in a changing society, rather than seek to provide training for the first or second job.

Older workers, very young wage earners, nonwhites, farm laborers, and marginal farmers are the groups with heavy concentrations of low levels of skill and education. Older workers tend to be employed in occupations, areas, and industries which are declining. Rapid technological change in agriculture has reduced requirements for unskilled labor and increased the capital and the technical skills needed to operate a successful commercial farm. Low-producing farmers and inefficient farmers, according to a recent National Planning Association statement, constitute perhaps the largest group of vocationally misfitted individuals in the Nation. Inadequate education and training, like discriminatory barriers in hiring, bar many nonwhites from the better paid and less unemployment-prone occupations. As things now stand in the public schools, the vast bulk of black youngsters from the working class or the lower middle class is unable to meet the standards for employment in other than menial, lower status jobs.

Concern with measures to increase the employability of persons with limited skills has grown so rapidly since 1960 that there are currently 15 to 30 separate programs administered by public and private agencies, all supported by Federal funds, in each metropolitan area. These activities include the training and adult basic education conducted under the Manpower Development and Training Act, the Job Corps, the Neighborhood Youth Corps, the work experience programs for unemployed parents of dependent children, vocational rehabilitation for the handicapped, the job creation activities in community service and beautification conducted in connection with the Community Action programs, and similar efforts. Programs which impact on national manpower policy include long established activities such

as the Federal support for vocational education or the counseling and placement service of the U.S. Employment Service as well as the new programs introduced in the past 5 or 6 years.

Education as the Prerequisite to Vocational Training for the Unskilled

Few persons become employable in occupations other than unskilled labor until they have achieved basic literacy and familiarity with the culture which has grown up in connection with seeking work and holding a job. For individuals lacking these skills, retraining or vocational education generally is not enough and is likely to lead to a dead end.

Large numbers of the undereducated and unskilled would be regarded as untrainable by traitional tests or by the standard techniques of education and training. Experience in the Manpower Development Training Act experimental projects suggests that there are good possibilities for utilizing training methods found successful in working with the mentally and physically handicapped to teach the socially and vocationally handicapped. Sheltered workshops where trainees work at their own pace in learning skills and work habits by helping to produce goods which are sold provide an example. Personal disorganization and family problems prompt many unskilled trainees with limited education to become training "dropouts"—to leave before the course is completed. Upgrading the literacy and job skills of the individuals in this group will require multidimensional programs for coordinating the community's resource in education, training, and social service to reach individuals frequently at the margins of society.

Most of the measures enacted in the 1960's to expand facilities in education and training concentrate on the young—on keeping young persons in school, or offering educational and training services to individuals who have recently left school. Yet absence of sufficient education is more common among older workers than among young adults.

The long-term remedy for eliminating lack of literacy and job skills for adults is more meaningful education for young people in poverty areas. Much of our education assumes middle class cultures and mores. Our educational content and teaching techniques must be made relevant to disadvantaged and working-class students. It can reasonably be anticipated that effective teaching in these schools will require a new type of teacher—a person who combines the skills of the classroom teacher with the insights of the social anthropologist and the skills which have proved effective in professional social work. Introducing this kind of education, in turn, could create considerable employment in the newly emerging nonprofessional human service occupations as teachers' aides, in helping to organize the community, and as interpreters between the school and the family in urban slum areas.

The new programs in manpower policy, the expansion of facilities in higher education, and the search for new directions in vocational education increase our society's flexibility in pursuing many goals by making it possi-

ble to assure a more adequate supply of labor in occupations required for national objectives receiving a high priority. In addition, a better educated and more skilled population would facilitate pursuit of all goals by increasing the productivity of the labor force. Consequently, the greater educational opportunity which furthers a nation's social goals by reducing the prevalence of illiteracy, poverty, and unemployment also encourages economic growth.

During the last few years there has also been a radical shift in the role of the Federal Government with respect to education—from a position of non-interference and non-support to increasingly heavy involvement. With substantial Federal funds flowing into education at all levels, Federal policymakers have begun to ask penetrating questions about the relevance and productivity of the total national education effort. The concern of the Federal Government with education has been heightened by its awareness that the poorly educated are likely to be unskilled and that the unskilled encounter difficulties in getting and holding a job that will pay a living wage.

The U.S. Commissioner of Education has called for a thorough restructuring of the curriculum of secondary schools to place greater emphasis on career orientation and preparation. With respect to higher education, there is mounting evidence of public concern about the large and still-growing number of college students, a high proportion of whom start their college studies only to drop out. With State legislators looking for every possible way to save money, with families and students uncertain about whether the time and money required to earn a degree are justified, and with employers reassessing their hiring policies, the nostrum of the 1960's that every young person should continue full-time education as long as possible is coming under critical scrutiny. There is need also to establish closer correlation between the demand and supply of graduate students as already noted. The relationships between education and manpower problems thus deserve broad and continuing evaluation by all concerned groups—educators and employers, as well as all levels of government—to ensure a better correspondence in the future between the skills and preparation of the work force and the country's manpower requirements.

Part III—Organization and Administration of Adult Education

ADULT EDUCATION ADMINISTRATION

Adult education is organized in many communities in connection with the elementary and secondary school system. In a few communities, this may be the sole source of adult education; but in most, a wide variety of other organizations provide adult education. These include employers, churches, unions, military service schools, colleges, public libraries, correspondence schools, community agencies, and a wide variety of professional, proprietary, and voluntary institutions. Adult education assumes such varied forms as courses taken for credit, informal instruction, on-the-job training, correspondence study, and discussion groups or demonstrations at home, shop, in the field, or the office.

Most adult education programs are conceived and organized separately from educational programs organized for children, young adults, or full-time college students. However, there has been a growing trend since 1965 for the elementary and secondary school system, the community college, and the university to accept greater responsibility for planning, organizing, coordinating, and staffing local adult education programs.

Federal involvement is massive, unorganized, and multipurposed. It has grown rapidly over the past decade without having been given a conscious sense of direction. It is the result of many different laws, administered in different ways by many different departments and agencies of the Federal Government. Yet there are some common strands which help explain what exists and which help reveal both strengths and deficiencies.

One such strand is the pronounced legislative concern with disadvantaged elements in our society. In a deliberate effort to promote social upward mobility, Congress has enacted a broad band of extension and continuing education programs addressed to those less able to compete for economic standing and educational attainment. This legislative emphasis has been reinforced by Federal administrative policy and paralleled by changes in practice and policy on the part of many institutions of higher education. One of the greatest problems facing the administrators of adult education programs today is that of overcoming racial isolation.

Another major strand results from Federal concern with public education

and public health. Forty percent of the programs included in a recent study provide funds for the continuing education of teachers and persons in the field of medicine and public health. In seeking to improve the quality of education and health care, the Federal Government has created numerous programs designed to advance the professional competence of persons employed in teaching and medicine.

Table A indicates the role of Federally supported adult education efforts involving institutions of higher learning, according to major program purpose.

Table A.—Federal Support for Adult Education, by Program Purpose, 1971

Program addressed to:	Number of programs	Federal expenditures
Educational personnel development	36	$ 281,113,000
Public health (personnel development and community services)	22	330,136,000
Vocational education	8	48,848,000
Miscellaneous education for the general public	9	12,168,000
Veterans education	3	1,032,753,000
Agricultural production and rural life	13	134,543,000
Community problems:		
(a) Environmental problems	15	52,530,000
(b) Problems of the disadvantaged	10	1,517,846,000
(c) Crime and delinquency	9	248,487,000
(d) Multipurpose	18	433,173,000
Totals	143	$4,091,597,000

No single agency of the Federal Government has central responsibility for the interaction between the Federal Government and institutions of higher education, yet all major departments and agencies have a continuing relationship with colleges and universities. As a result, at any given time several agencies may be engaged in important forms of collaboration with the same educational institutions.

All signs indicate that university-Federal agency interaction will continue to increase. Universities need Federal funds and the opportunity for scholarly involvement in Federal programs relevant to institutional purposes. In turn, colleges and universities are an invaluable resource in support of objectives sought by Federal agencies.

The initiative for establishing most adult education programs came from Congress and from public interest groups. In enacting programs of adult education Congress has often sought to serve important social purposes by deliberately involving higher education in social problems such as poverty, crime, drug abuse, unemployment, and environmental degradation. Such

involvement is fundamentally changing traditional concepts of the university's self-image and its role in society.

A Federal-State-local adult education system, by its nature, divides responsibility and disperses broadly the powers of decision and action. When further coupled with the concept of a division of responsibility among independent executive, judicial, and legislative branches, the American system of governance gives vitality, protection, and expression to democratic ideals; but it creates monumental problems of administration. When government, at all levels, accepted only minimal involvement in the socio-economic problems of society, the tasks of administration were relatively uncomplicated. Under conditions existing today, the vastly expanded scope of governmental action has strained the administrative capacity to cope with fresh responsibilities and new challenges. This is perhaps the most important single message of this report.

Coordination of these programs is complicated by the legal and organizational dispersion of responsibility. These 143 programs (table A) are established by over 100 discrete laws, and nearly every major Federal department and agency is responsible for one or more of them. Each adult education program has its own grant review criteria and procedures, funding, reporting requirements, organizational structure, and separate identity. While it is wholly reasonable to administer through each department those higher education programs which are related to that department's mission, this cannot be done effectively without a policy framework applicable to all departments. No such policy structure exists.

Many Federal programs have included in their budgets the provisions to staff program units at the State level.

The increasing number of Federal executive agencies concerned with domestic problems, particularly in the areas of education and social welfare, has brought the Federal Government closer to local communities, including clusters of communities within large metropolitian areas, than at any time in the past. At the national level, Federal programs appear mammoth and sprawling, but at the local level their size may take on more manageable dimensions. Control and "ownership" of these programs consequently become volatile issues, and they become exceptionally so when these programs touch closely on basic social issues, expectations, and frustrations. The dangers of politicizing these programs at the local level are real, and what once may have been conceived as a "community" is transformed into a "constituency."

The main non-public organizations active in adult education are:

(1) The churches and synagogues
(2) Business and industry
(3) Labor unions
(4) Private schools
(5) Arts councils
(6) Business and civic associations

(7) Charitable foundations
(8) Non-charitable foundations
(9) Professional societies
(10) The communications media
(11) Community organizations
  (a) Voluntary associations
  (b) Political parties
  (c) Service clubs
  (d) Charitable groups
  (e) Fraternal organizations
  (f) Special interest groups
    (1) Farm organizations
    (2) Veterans groups
    (3) Ethnic and racial groups
    (4) Cause groups (conservation, etc.)
  (g) Trade associations

The methods and modalities used to solve problems regarding the coordination between the multitude of governmental and non-governmental, public and private activities and resources are as follows:

(1) At the State and national levels there has been an attempt to formalize the organizational structure by building programs offered by many public and private agencies. Officially, there are advisory groups of lay citizens who are convened by the government but which operate independently of the government. These national advisory groups give advice in the areas of vocational-technical education, manpower development, general adult education, agricultural extension service, and general university education, among many others.

(2) In some communities, community colleges serve as coordinating agencies. Intermediate school districts attempt to coordinate services of local school systems and other governmental agencies. In still other situations, the area vocational-technical schools serve in this capacity.

(3) Local public school districts in some communities also serve as the coordinating agency.

Administrators of adult education programs have traditionally made efforts to make learning convenient to adult learners even though they may be employed part time or full time.

Sabbatical leaves for instruction and study, financed by the employer or employee, are becoming increasingly available. Government and private employers are increasingly offering staff an opportunity to upgrade job skills both by on-the-job and classroom training, including academic courses conducted or sponsored by the employer. The training of civil servants employed by the Federal Government is supported by the Government Employees Training Act.

The fiscal resources that the private sector contributes to adult education are substantial, as the following indicates.

(a) *Voluntary Organizations.* Voluntary private associations, exclusive of industry, commerce, and agriculture, are of limitless variety. Expenditures range from the millions granted by the Ford Foundation for research and demonstration projects to the donation of a film projector by a service club. A reliable estimate of the total contributions in funds and services is impossible.

(b) *Industrial and Commercial Enterprises.* Nearly every business provides job training and/or education for its employees. In 1971 a major corporation spent approximately $3 million for education. Since there are nearly 100 companies of this size category in the United States, if each makes a similar expenditure, the total would be about $300 million.

During the decade of the 1960's there was a trend for major unions to write educational funding into the union contract. This suggests a combination of union funds and business funds being intermingled in a common education expenditure. This kind of expenditure for adult education cannot be determined from available records.

There are hundreds of private schools which provide career education for a fee, and many adults pay tuition to take courses at educational institutions in their spare time. It is estimated that learners pay a major fraction of the national bill for adult education. An exception to this general policy is the adult basic education program or the national literacy effort in which the Federal Government provides 90 percent of the cost. Through the Congress, the Nation has taken the position that every citizen should have access to the equivalent of a secondary education. It may be that the principle of a free public elementary and secondary education (deemed necessary to keep U.S. society viable), will be extended to the principle of life-long access to free learning to retain this viability in the increasing complexity of our society. Many of the programs and expenditures of tax monies to provide job training and other compensatory programs for the victims of discrimination will move the country closer to free education for citizens at every stage of life.

THE INTERNATIONAL DIMENSION

An important trend in adult education is its increasingly international character. Adult education has been slow to emerge as a legitimate area of university study and professional preparation, and this has inhibited the growth of international activities in adult education in the U.S.A. Many universities involved in international studies have not focused on adult education or on foreign adult education. Another reason for inhibited growth is that adult education has developed in such different ways and has been defined so differently in various countries that it has been difficult to make useful comparisons. To heighten international understanding and to profit

by the experience of other nations, more knowledge of various world cultures and of comparative adult education is needed.

Although international activities in adult education are still at an early stage, there are encouraging developments evident through participation in conferences, exchange of persons, and the introduction of comparative adult education courses in graduate programs.

International organizations and international conferences have provided opportunities for adult educators to learn about programs in other countries. U.S. representatives have been members of international committees, such as the UNESCO International Advisory Committee for Out-of-School Education, and the Adult Education Committee of the World Confederation of Organizations of the Teaching Profession. Some adult educators have been active in the International Congress of University Adult Education or taken part in organizations such as the Society for International Development.

In 1966, the International Congress of University Adult Education, in cooperation with the New England Center for Continuing Education and the Center for the Study of Liberal Education for Adults, arranged the First International Conference on Comparative Adult Education. A second conference was held at Syracuse, N.Y., before the 1969 Galaxy Conference of Adult Education Organizations in Washington, D.C.

The U.S. voluntary and professional associations and nongovernmental organizations play a most important role in adult education for international understanding. Formed by public-spirited citizens for civic, fraternal, philanthropic, professional, religious, or other purposes, these organizations frequently sponsor programs which stimulate interest in the United Nations and in programs of education about various aspects of international affairs for American adults. Examples are the Foreign Policy Association, the World Affairs Councils, People-to-People, Inc., the U.S. National Commission for UNESCO, and the National Education Association and its affiliate groups, to name a few. Many others are equally dedicated to building an informed and articulate public opinion on major issues. General adult audiences, as well as specialized ones from business, labor, the professions, universities, and other areas, are offered programs and seminars in cooperation with the newspapers, periodicals, and the radio and television media.

During the past 10 years, there has been a marked increase in the number of U.S. adult educators visiting programs overseas either on sabbatical arrangements or in briefer visits. UNESCO has published a guide for adult educators interested in studying abroad. The number of adult educators from overseas visiting adult education activities in the United States and Canada has also risen significantly. A recent study indicates adult educators travelling and working abroad comprise only 5 percent of exchanges, but as adult education continues to grow in sophistication, this figure will undoubtedly change. Several university adult educators have had their visits to institutions in the United States arranged by the International Congress of

University Adult Education during the last 6 to 8 years, some with their expenses covered by grants from the Carnegie Corporation or the Ford Foundation. In addition, persons active in public school adult education and labor education have also visited the United States.

Another more specific and more focused way of promoting international understanding is through offering comparative adult education courses by those engaged in providing graduate professional training in adult education in universities. The last decade has seen the introduction of such courses into graduate programs. At Syracuse University there is a new graduate program in international adult education; Indiana University has a new course in comparative adult education; Florida State University plans to establish an Inter-American training program in its Department of Adult Education; Cornell University presents a graduate program in the international aspects of agricultural extension; Ohio State University and the University of California at Los Angeles offer seminars in comparative adult education.

Generally, American foundations have supplied meager support for adult education programs overseas, but there are distinguished exceptions. The Carnegie Foundation awarded grants to support adult education in Kenya and the study of inservice training of teachers in Africa. Under Carnegie's Commonwealth program, adult educators from 20 countries have been brought to the United States. Other interest has been concentrated on literacy education, community development, management and labor education, correspondence instruction, religious education, and health and nutrition.

The Peace Corps has trained more persons for overseas work than any other civilian government agency. It has been found that the recipients of this training, mainly young people, are eminently suited to work in adult education. This runs counter to the common notion that only older people can educate adults. There is also the strong possibility that many of the concepts and approaches emerging from the Peace Corps experience overseas can be applied in the United States by adult educators working among the disadvantaged.

The U.S. Agency for International Development (AID) has employed many adult educators to work as community developers in overseas technical assistance programs. Many of the lessons learned abroad are now being applied in the United States.

Many universities are now offering special training programs for businessmen who plan to work overseas. On the other hand, labor unions have concentrated less on training their professionals for overseas work and more on providing organization and administration skill training for foreign labor leaders in the developing countries.

Many churches are engaged in foreign mission work with a strong adult education component. The YMCA World Service, primarily with North American help, sends persons abroad to help start YMCA's and to do many forms of recreation, physical education, agricultural education, and commu-

nity development. Through AID, the U.S. Department of Health, Education, and Welfare, and private foundations, there have been substantial adult programs in health education in most of the developing countries. The U.S. Department of Agriculture has trained extension personnel and various other kinds of specialists.

Those who conduct education by correspondence have been meeting in a separate international association for more than a decade. Educators from the United States have contributed much to the exchange of information in this field.

SUPPORTIVE SERVICES AND RESOURCE DEVELOPMENT

Adult Education Staff Development

Adult education in the United States needs more trained career-oriented personnel. The shortage can be validated by present enrollment and participation figures in such programs as public school adult basic education, college and university extension, retraining programs in business and industry, and in continuing education programs of professional associations and organizations. It is also made evident by the scope and nature of the problems of undereducation, poverty, rapidly changing professional job markets, increase of time for life-long learning and leisure-time (non-work) activities, and the urgent necessity for our environmental understanding and conservation.

Over the past few years national, regional, and State programs have been initiated to provide and prepare leadership and personnel for some of these adult education programs and activities. However, there remains a significant and varied number of gaps and shortages in adult education personnel.

Categories with the greatest shortages of personnel, training opportunities, and career development opportunities are: paraprofessional aide, manager, researcher, media specialist, and director of training education.

(1) *Paraprofessional Aides*: There is considerable evidence that adult education programs throughout the United States could be strengthened significantly by use of paraprofessional aides. Such aides would assist the senior professional or master teacher in expanding the instructional program.

(2) *Administrators*: There is a shortage of well-trained administrators who have an adult education orientation. Many adult education administrators were trained in other areas of education—generally, elementary and secondary education or a subject matter specialty.

(3) *Researchers*: Although there are many research technicians, analysts, etc. employed today in various aspects of education (universities, public schools, research and development sections of business), most of the people carrying out research activities in adult education have not been trained in the special elements of adult education.

(4) *Media Specialists*: There are very few technicians in the area of communication/instructional media who are engaged in formal adult education. As in the case of the researchers, media specialists also come from other areas.

(5) *Guidance and Counseling*: Guidance personnel are in short supply. Guidance services are designed to make the transitions of today's society easier and more beneficial for all concerned. Through a basic program of guidance services the adult learner is helped to know himself and how he has come to be. He is apprised of environmental components and opportunities, and he receives the personal assistance of a professional counselor in his quest for selfhood in relation to the world of experience.

(6) *Directors of Training/Education*: There is great growth in the adult education activities of professional organizations and associations. Thus, there is need for directors of education in various areas; i.e., scientific engineering, or space-related business and industry. The Agricultural Extension Service of the U.S. Department of Agriculture reports that the most serious shortage of qualified personnel exists in the home economics field and related disciplines. A central function of such personnel is the design of programs for personnel development, skills training, and education for personal growth. The director needs to be skilled in the development, planning, budgeting, and evaluation of adult education activities.

The demands for more specialized personnel requiring more academic study is reflected in shortages in the humanities as related to education. There is a shortage of educational personnel in the field of applied human behavior and motivation.

The college or university has provided most of the training for adult educators, particularly land-grant State colleges. There are approximately 75 institutions of higher education which provide master and/or doctoral level programs in adult education. In the past 2 years, 16 colleges in the Southeast have established either undergraduate or graduate programs for teachers, teacher-trainers, and managers with Federal support.

Community colleges and special summer institutes operated by colleges and universities have trained thousands of teachers, teacher-trainers, and administrators in adult basic education since 1964. However, most of these efforts have been designed on an emergency basis with little systematic follow-up. Also, these institutes and conferences have served part-time personnel in most cases. The universities in their degree-granting programs have prepared full-time personnel.

Many other government and private groups have funded and organized their own short courses and institutes of training or retraining. But, again, the universities have been called upon to provide much of the training in educational techniques for the adult educator.

The two major adult education thrusts of the Office of Education of the Department of Health, Education, and Welfare are in adult basic education (the Right To Read program to end illiteracy) and in the development of

stronger training resources to raise the quality and increase the number of teachers as well as counselors.

The U.S. Office of Education has conducted a pilot regional staff development program which will be extended to the rest of the Nation at a Federal cost of $2,500,000. The results of this pilot program include: effective coordination between State Directors of Adult Education and selected universities within the State; joint planning by State, university, and local personnel to meet short- and long-term development needs; establishment of faculty capability in adult educators; establishment of faculty capability in adult education in an adequate number of universities; and development of complementary areas of expertise in adult education in participating institutions. Direction of additional State and local funds into adult education could well cause the Nation to find ways to utilize a resource which has been created by demographic changes within the country. There is a surplus of elementary and secondary teachers at a time when the population pattern is changing to a smaller proportion of school-age children and a larger proportion of adults. This resource could be utilized by transferring some mature elementary and secondary teachers into adult education operations after "recycling" training in adult education skills and replacing them with the younger teachers coming onto the job market who might have more empathy with young students than with adults. Adjustments of this type often occur without organized supervision to meet the market in the American society.

Research and Information Systems in Adult Education

The education of adults is a rapidly expanding area in American education. Thus adult and continuing education is becoming a major field of research in a number of leading universities. While adult education is a relatively new academic discipline, the need for an improved research base is recognized, and increased efforts have been made in the past decade to meet the professional requirements of practitioners in the field.

Research in adult education tends to be divided into two large categories —liberal and vocational. While such a division is not really defensible on theoretical grounds, it does serve to illustrate the influence of Federal financial support on the type and volume of adult education research activity. The Federal Government, through the U.S. Office of Education, has provided for many years special funds for research in vocational education. But only since 1966 has there been Federal support for the development of demonstration research activities in adult basic or literacy education. A national research strategy for adult and continuing education has not yet been developed.

There is still a shortage of funds at all levels of government to support research on the education of adults. Only the Agriculture Department's Federal Extension Service has been able to devote appreciable funds to its identified research needs.

Examination of the reported research in the last decade reveals a continuing emphasis on descriptive studies. But this examination also reveals a steady increase in experimental and basic research activity. In the past, adult educators and the major agencies have relied on other social scientists —psychologists and sociologists in particular—for major contributions.

With the growth of graduate programs in the universities, a larger supply of trained researchers is becoming available. These new professionals have available a considerable body of theory and methodology which is being applied to the areas of research concern in adult education.

An adult educator suggests a three-part scheme for the development of research in adult education. This scheme focuses on *the learner,* the *social context,* and the *adult education agency.* While an adequate discussion of the status of adult education research would require a major study, the following section will serve to illustrate some of the activities of the past decade.

The Individual Adult Learner—The individual is a central reference in the adult education enterprise. The major research concerns are learning processes of adults and motivation of adults to engage in new learning opportunities. Included are such critical areas as adult attitudes affecting learning, learning abilities related to age, and the application of work-emotionality theories to adult education.

The central task of the adult educator is to serve as an educational "change agent." He seeks to influence what people know and understand and what they value, as well as what they do. Thus the adult educator seeks new knowledge about the critical elements of teaching-learning strategy that promises the greatest behavioral change in the time available and under varied circumstances.

Continued research confirms earlier findings that the older adult (50 + years) can and does learn in a structured learning situation, although at a slower rate than the younger adult (25 years or under).

In related studies are other findings that have important implications for the practice of adult education. One surprising result of research is the tentative conclusion that "memory" or the ability to recall information and events appears to be a function of educational level rather than age of the individual. Further study is required in this area, but there is a clear implication for developing educational programs for adults. Another recent study concludes that voluntary participation in continuing education is primarily influenced by the learning ability and interests of the individual. However, secondary influences such as physical health, income, mobility, and prior education may be equally significant.

The contributions of educational psychology to studies of the adult learner are continuing to form a major share of recent research activity. Major results of research may be summarized as follows:

While changes in physiological drive, speed, and perceptual activity may

limit the older individual's learning performance, other factors, such as special motivation, may facilitate it. Further, it may be that the number of years out of a formal educational situation does affect the individual's expectancy to learn and the ability to seek out crucial elements in a learning situation. A final generalization that should influence programs for adults is the finding that the development of the ego is, for the first two-thirds of the lifespan, outward toward the environment; for the last third, inward toward the self.

In a different dimension is a pioneer empirical study of the effectiveness of residential and non-residential adult education programs. Results tended to affirm the superiority of residential instruction in knowledge acquisition and application.

The Social Context of Group and Community—Adults do not live in isolation but in a complex of family, work group, and community. The focus of research in this area is on the influence of societal values and expectations or practices in a group or community setting. Research completed and in progress speaks to such questions as (1) relative influence of reference groups on the interests and educational participation of adults and (2) the effects of cooperation and competition between adult education agencies in the same geographic area.

For example, there is an increased emphasis on general education and vocational training for the disadvantaged adult. The term "disadvantaged" is applied to the members of a poverty sub-culture who are handicapped with respect to the mode of the dominant society.

A survey of recent research related to these individuals in American society concludes that the values which characterize the poverty subculture have significant implications for continued or renewed learning activities.

In the programs surveyed in this research effort, there was a rejection of institutionalized patterns of education by the disadvantaged, and the findings suggest that individualized and personalized instruction is the most effective. It is apparent that piecemeal approaches will not solve the problem of further education and integration of the disadvantaged. This objective may require social institutions unlike any which now exist in the United States. In conclusion, the research states that it may be more economical in the long run "to establish new programs unrelated to present educational institutions than to attempt to reconstruct existing systems to serve the educational and training needs of disadvantaged adults."

Of equal importance with such basic research in adult education are the demonstration research activities supported by the Federal Government. In the past 6 years support has been enlarged and significant progress made in the area of adult basic or literacy education.

A number of research and demonstration projects were funded by the U.S. Office of Education in the 1960's. These projects covered a wide range

of areas, including curriculum design, recruiting, staff training, multi-service coordination, and parent education.

Several examples that may be cited include such projects as a study of innovative practices in adult basic education in inner cities to develop new approaches for program planning; a study of recruitment and retention procedures in adult basic education; developing curriculums and materials to help parents cope with their children's school life; a study on shaping instruction to daily demands of the participant rather than planning according to traditional academic formats; a review of the effectiveness of newly designed home-study materials; a project to design a model adult basic education curriculum suitable for use in several types of correctional institutions; and a special project to develop a measurement instrument to diagnose reading levels and assess achievement in reading.

The Adult Education Agency—The profusion of adult education agencies with the resultant diffusion of professional responsibility and professional effort has had significant impact on the types of agencies and the range of programs offered by those agencies. A high priority for further research is structure and administration of adult education agencies. Among the major concerns in this area are: (1) determination of relationships between teaching styles, adult student personality, and learning outcomes; (2) identification of major differences between voluntary and compulsory adult education programs in relation to learning gains and subsequent application of new knowledge and skills; (3) comparisons of programs and practices between agencies which are *centrally* adult education and agencies which are *marginally* adult education.

In addition, experimentation with new institutional and organizational forms must be encouraged as well as demonstrations of program development and teaching-learning methods. Such experimentation is essential to a successful national adult and continuing education effort.

There remains a national need to build a cohesive body of research in the diverse field of adult education by developing a common frame of reference for viewing completed and projected research activities. Materials do exist and a useful mechanism is in place—the ERIC system—for a major undertaking in research planning and development in adult education.

The proposed National Institute of Education would provide, at the Federal level, a new resource and structure for the improvement of education at all levels. The NIE would seek to strengthen the scientific and technological formulations of education and to build an effective research and development system. In the development of the Institute the continuing education of adults should receive new and enlarged attention.

Educational Resources Information Center (ERIC)—Sponsored by the U.S. Office of Education in cooperation with 19 universities and professional associations, ERIC is a large-scale, long-range effort to improve in-

formation services throughout the field of education. It has four basic purposes. The first is to make a wide range of significant educational documents easily available to the educational community. Each of the clearinghouses in this decentralized system collects and analyzes (i.e., catalogs, abstracts, and indexes) documents in its field of subject competence.

The ERIC Clearinghouse on Adult Education (ERIC/AE) acquires, analyzes, and processes documents for the ERIC.

A second major purpose of ERIC and of ERIC/AE is to produce bibliographies, literature guides, interpretive summaries, and state-of-the-art studies of information from many reports for use by educational decisionmakers, researchers, and practitioners.

ERIC works to strengthen existing educational channels, it helps to provide a base for developing a coordinated national educational information network, and it stimulates State departments of education, national associations, resource centers, and other agencies to think through the information needs of their constituencies and to develop information services which make maximum use of ERIC and other resources.

Part IV—Innovations and Future Directions

EDUCATIONAL TECHNOLOGY AND INNOVATIVE APPROACHES

Despite startup problems, educational technology in all its forms will soon be essential to the pursuit of learning in this country, whether in schools, colleges, universities, or homes. In untold numbers of ways the relationship between these two powerful forces—education and technology—is deepening and broadening. Technology is infiltrating and influencing education —by means of television, computers, audiovisual devices, films, satellites, etc. This is not a revolutionary process of change; it is an evolutionary process. This profound and pervasive change is proceeding at an accelerating pace due to the commitment of professional groups and the interest and commitment of the present Administration in Washington. A major element of the President's 1972 State of the Union Message concerned the need for the application of technology to the solution of major social problems and to ensure the general advance of our civilization. In 1970 the President said that "our goal must be to increase use of the television medium and other technological devices to stimulate the desire to learn and to help to teach. The technology is here but we have not learned how to employ it to our full advantage."

The U.S. Office of Education has been a major source for the support, development, and demonstration of technology, particularly computer activities. Over the past 6 years the Office has funded more than 500 projects involving the use of computers in every conceivable way—tutorial presentations, problem solving, gaming simulation, testing, vocational guidance, instructional management, data analysis, information storage and retrieval, library services, administration, and organization. In 1967 alone, OE contributed about $865 million—including cost sharing—in support of instructional materials, media, and media-based activities. From 1966 to 1969 these expenditures totaled nearly $2.5 billion under all programs, for all kinds of technology and related equipment.

But all these activities, as well as those in related areas of technology, though *individually* useful, cannot be said to have achieved the maximum *cumulative* results that could have been hoped for. No coherent body of knowledge, for example, concerning the overall usefulness of computers in

education has been developed as a consequence of Office of Education-supported projects. The reason is that support was provided as part of a Federal response to particular educational problems rather than for the more general purpose of building knowledge in the field. The use of computers was incidental to the basic educational objective of each project, whether it was educational diagnosis and prescription, improved administration, or whatever.

The Office of Education has not contributed to the design and fulfillment of an overall strategy of technological innovation to an extent commensurate with its investment, nor to a degree compatible with the leadership role expected of the national Government. However, its present objective is to gather the loose programmatic threads into a synthesized, interactive, coherent fabric of support. The newly established National Center for Educational Technology is designed to be the point of contact between the Federal Government and the many problem areas throughout education for which technology should be able to provide workable solutions.

In the area of computers one project operated by the Ohio College Library Center (OCLC) has resulted in the establishment of the first statewide library cataloging network. The computer-based system handles all cataloging and technical processing requirements of the 80–odd college libraries it now serves. During its first year of operation the system saved member libraries nearly $400,000 in cataloging costs. In addition to the on-line cataloging system now in operation (which can process 10,000 catalog cards daily), OCLC is moving toward a total automation system which will give the user in any member college push-button access through his college's terminal to any book in the network. The Office of Education has invested $215,000 in this system since January 1970.

Another OE-supported computer project, the National Education Computer Service, also known as the Computer Utility for Education Systems (CUES), began in the late 60's as a feasibility study. It is now about to begin providing computer services nationwide to school systems and small colleges which do not have the financial resources to own and operate a large, multipurpose computer system.

In the CUES system, a large computer operated by the Western Institute for Science and Technology in Waco, Texas, will be connected to participating institutions who can afford modest terminals. Once operational—and it is hoped that 60 to 70 terminals will be involved by 1973—CUES will provide four basic services: *first,* workaday chores such as record keeping, scheduling, payrolling, and so forth; *second,* a basic course in computer technology for students in the receiving systems to familiarize them with the equipment and to teach basic skills; *third,* curriculum support through problem-solving exercises enabling students in courses such as chemistry, mathematics, and business education to use the computer to support their in-class work; *fourth,* vocational training, enabling the receiving schools to

train some students as key punch operators and others as beginning programmers.

This year the Office of Education has invested $400,000 to begin the difficult job of moving CUES off the drawing board and into educational practice. It is hoped that CUES will provide the educational community, and private enterprise as well, with verifiable evidence of the range of uses computers can reasonably and economically provide to education. What is learned from CUES should be of immense importance to all who think technology must succeed if education itself is to succeed in the difficult and challenging decades ahead.

Rural Family Development (RFD), conducted by the University of Wisconsin, is a 3-year demonstration project designed to test a home-based delivery system of adult basic education that includes television, home study, and personal contact by trained disadvantaged adults.

The RFD system of electronic media, print materials, and home visits was created to meet the educational needs, personal interests, and media characteristics of undereducated adults who are untouched by conventional adult education. The system was designed to facilitate learning and attitude change while focusing on the immediate life situation of participants. In 1972 the project began its dissemination phase and is presently holding a series of workshops for adult educators from coast to coast.

In 1967, an act of Congress established the Corporation for Public Broadcasting, whose primary responsibility is the channeling of public as well as private funds to educational television stations and national and regional production centers. In 1969, the CPB commissioned a study of comprehensive new approaches to the needs and opportunities for continuing education through the broadcasting medium. It seems certain, however, that the CPB will act decisively in the early 1970's to make continuing education an increasingly important part of public broadcasting, along with the areas in which it already functions: public affairs, public culture, and programs for children not related to their classroom activities.

The first use of a satellite in instructional television occurred in 1965 when an elementary school class in Paris was linked for an hour to a class in Wisconsin via Early Bird Satellite. This technique has not been applied yet to the field of continuing education. However, sometime in 1973, The National Aeronautical and Space Administration is planning to launch a satellite in stationary orbit over the Rocky Mountains which will be in a position to provide experimental broadcast services to the Rocky Mountains States, the Appalachian Region, and Alaska. The objective is to address questions of educational effectiveness and technological feasibility as part of a continuing effort to develop an effective communications-based system for solving educational problems. From a technological point of view, the goal is to experiment with and carefully examine the relative effectiveness of one-way and two-way communications system capabilities and their usefulness with specific learner groups on specific instructional tasks. It is significant to note

that this unique approach will focus on career education as one of two program areas, the other being early childhood education.

Audio tape recorders are now widely employed in adult education programs. They are used for enrichment purposes in many courses to provide a stimulus to discussion.

Video tape recorders help the student and his instructor identify errors, diagnose difficulties, and formulate new approaches or procedures to tests in the future. Video tape recorders have been used extensively in training adult education teachers.

Different technological products have led adult educators to a variety of experiments in combining the media for structuring educational activities. The influence of these efforts was seen in the "sixties" in the creation of new patterns ranging in length and complexity from single meetings to an entire curriculum or training program. A common concern in all these efforts has been to determine the appropriate role for each element in the educational system so that the new technology effectively serves educational purposes and does not become a mere gimmick.

The new technology, while immediately useful for many adult education purposes, cannot be easily fitted into existing practices and systems. Needed are reorganization of educational resources and the provision of training activities to equip educators for tasks of differing complexity.

Many of the products of educational technology will be difficult to fit into current patterns. Continuous research and evaluation will be necessary; this in turn will introduce the need for changes in administrative and teaching procedures. The continuing education of adult education personnel to function adequately in the technological age is a challenge and a necessity. The colleges and universities, especially those with graduate professional programs in adult education, should accept this challenge by developing and testing new patterns for organizing and conducting adult education programs.

Until very recently, virtually all forecasts of higher education, as well as proposals for its reform, dealt solely with campus-bound, fixed-time programs. A college or university was seen as a place where students and teachers assemble, and a college education was defined by four years of courses. This unconscious assumption of space and time has obscured a vision of the future that may not only be more plausible, but also more desirable.

In 1970, several plans and proposals served to erode the traditional space/time assumption. In 1971 the collective impact of more plans and proposals, as well as the operationalization of several projects, has led not only to an abandonment of the space/time assumption, but to a move toward open universities, universities-without-walls, external credit, and external degrees. The most notable success to date has been the Open University in England which has served as an inspiration and a resource base for many American institutions. However, despite ostensible similarities, there is a considerable variation in the administrative organizations, flexibility of

programs, and motivations for initiating these new arrangements for learning. Indeed, the only similarity is that all of the programs and institutions seek to promote learning beyond campus classrooms, while many of them are flexible, as to when and how a student learns and the time required to meet degree requirements. And thus these programs, plans and proposals are collectively referred to here as space-free/time-free (SF/TF) adult education.

With the acceptance of new SF/TF possibilities, an entirely new set of questions must be asked as to the future evolution of institutions for higher learning. But before raising these questions, a brief survey is required, not only of present developments, but of future possibilities that may accelerate them.

One approach to an overview of SF/TF higher learning is to make a distinction between single campus programs, multicampus programs, and non-campus organizations.

Individual institutions have yet to sponsor a program that allows all credit work leading toward a degree to take place off-campus. However, there is an increasing number of colleges and universities that allow degree credit for some SF/TF work through campus abroad programs, independent study, or credit for community work or other "real-life" experience. This trend is indicated by nonresidential adult degree programs at 18 institutions.

Multicampus programs, sponsored by State university systems or a consortium of institutions, which may or may not be geographically proximate, have the potential for a far greater impact than the programs at individual institutions, in that more resources can be made available to learners. The State University of New York's Empire State College, which opened in September 1971, encourages students to utilize the resources of the entire New York State system. Many States are presently considering external credit plans that will utilize the resources of public systems to some degree.

The best-known consortium of institutions in the country is the University-Without-Walls, also opened in September 1971, which coordinates programs at 20 widely differing institutions throughout the U.S.A.

New organizations independent of existing institutions may have the greatest potential for profound impact on higher learning. These noncampus organizations can be differentiated between those offering educational services and degree credit, those offering only courses, and those offering only credit.

The stage is now set for massive growth in adult education. To a considerable degree there seems to be a readiness to call on the services of adult educators, a readiness which stems from several decades of careful attention to developing methods appropriate and successful for adult learning. Adult educators seem eager to employ new devices and to incorporate research findings in their programs. The limitations are largely those of finance, lack of access to the products of the new technology, and lack of training in

their use. The fragmentation that has plagued adult education in the United States from its inception is still present, but a common concern for effective methods constitutes one of the major forces linking the field—and one of the brightest hopes.

Thomas James, formerly Dean of Stanford's School of Education, expressed his reservations about educational technology in this way: "The developing technologies for education," he writes, "must display more humility and more imagination than they have thus far—for on the one hand, the micro-efforts to transmit bits of facts ignore the great sweep of humane experience to which the teacher in the past and the technologies developed in the future can only be window-openers; and on the other hand, the technologies emerging can through the use of multi-media give wings to the human mind in ways that are yet to be devised in helping man to encompass his environment."

As Dean James suggests, the future of education will be determined not so much by the strictly scientific capacities of the United States but by the imaginative and humane uses to which those capacities are put.

COMMUNITY COLLEGES—THEIR ROLE IN ADULT EDUCATION

The most striking recent structural development in higher education in the U.S.A. has been the phenomenal growth of community colleges. At the beginning of the present century, there were only a few 2-year college students. By 1960, more than 600,000 students were enrolled in 2-year institutions of higher education, and by 1970 this enrollment had quadrupled to 2.5 million, including both full-time and part-time students. These students accounted for nearly 30 percent of all undergraduates and 25 percent of all students in higher education in the Nation.

Among the explanations for the rapid advance of the community colleges are their open-admission policies, their geographic distribution in many States, and their usually low tuition. They offer more varied programs for a greater variety of students than any other segment of higher education. They provide a chance for many who are not fully committed to a 4-year college career to try out higher education without great risks of time or money. They appeal to students who are undecided about their future careers and unprepared to choose a field of specialization. And, last but by no means least, they provide an opportunity for continuing education to working adults seeking to upgrade their skills and training.

Community college students are more representative of the college-age population of the United States than are students in any other major segment of higher education. They tend to be almost equally divided between students of above-average and below-average ability. They are predominantly from families with average incomes. The proportion of students from upper-income families tends to be appreciably higher in public 4-year insti-

tutions and decidedly higher in private 4-year institutions than in 2-year colleges.

Community college students are also representative of their communities in racial composition. Although, on a nationwide basis, the proportion of minority-group students in community colleges (except for Japanese and Chinese-Americans) falls short of their representation in the youthful population, the composition of the community college student body in individual communities tends to reflect the local mix, especially in the northern and western States.

Approximately half the students in 2-year colleges are adults, ranging in age from 22 to 70 or more, with a median age of about 25 years. These students' objectives are predominantly professional or vocational, and in most cases they are attending college in order to qualify for a better job. About 45 percent of the students in 2-year institutions are enrolled on a part-time basis. These include both college-age students who hold jobs and adults enrolled part-time in day or evening classes. On a full-time equivalent basis, total enrollment in 2-year institutions amounted to about 1.3 million in 1968, or about 22 percent of all enrollment in higher education counted on this basis.

There is no doubt that community college enrollment will continue to grow rapidly in the 1970's. Although enrollment may level off or decline in the 1980's for demographic reasons, it seems probable that by the year 2000 enrollment in community colleges will be substantially above its present level and will account for an even higher proportion of undergraduate enrollment than it does today. Community colleges will also be both more numerous and more broadly distributed geographically.

As growth continues, there will be unsettled issues and problems relating to community colleges. Among these are (a) how to stimulate their growth and development in States that are barely beginning to establish them or have thus far failed to make a beginning; (b) how to provide more adequate financial support for the community colleges and bring about a more equitable distribution of the financial burden among Federal, State, and local governments; (c) how community colleges can achieve improved quality and, in many cases, a broader selection of both academic and occupational programs; (d) how to strengthen the relationships among highly selective universities and colleges, less selective 4-year and 5-year institutions, and nonselective community colleges; (e) how to ensure that the public community colleges will maintain not only open access but also low tuition policies; and (f) how to encourage appropriate private 2-year colleges and institutions to become more comprehensive and to serve community needs in the manner exemplified by the best of the public community colleges.

In view of the phenomenal growth of the community colleges in the recent past and the prospect of equally extraordinary growth in the next decade, the satisfactory resolution of these unsettled issues and problems is

of importance and urgency for the future of higher education in the United States.

Historically, the emergence of comprehensive community colleges was influenced by the prior development of comprehensive high schools, particularly over the past quarter of a century. The comprehensive high schools were themselves manifestations of the rising demand for increased education and for vocational training associated with rapid industrialization and urbanization. Many of the public 2-year colleges also gradually developed a broader concept of their role, recognizing that if they were to provide meaningful options for students who had not yet made a firm career choice they must offer academic, general, and occupational programs. They also began to meet the need for programs of education for adults. Thus, community colleges as comprehensive public 2-year colleges offer academic, general, occupational, remedial, and continuing adult education.

The pace of equalization of access to the community colleges has been greatly increased as a result of the Nation's growing commitment to equality of opportunity. Massive Federal assistance for the higher education of returning service personnel, for technical education, and for general financial aid to students have greatly increased the demand for education beyond high school.

As the Carnegie Commission pointed out in its recent report, *A Chance To Learn: An Action Agenda for Equal Opportunity in Higher Education*:

> An unusually heavy burden of universal access now falls and will continue to fall on the two-year community colleges. They have the most varied programs and thus appeal to the widest variety of students. Their geographical dispersion makes them, in the states where they are well-devloped systems, the most easily available colleges for many students. The community colleges are particularly well-suited to help overcome deprivation by fact of location, deprivation by fact of age, and deprivation by fact of income.

As of 1970, there were 1,091 2-year colleges in the United States, and in recent years new colleges have been created at the rate of about one each week. Whereas the number of private 2-year colleges has been declining, the number of public community colleges has more than doubled in the last decade, and their average enrollment size has increased about 6 percent each year. Enrollment is now predominantly in the public institutions.

Yet the development of community colleges and the growth of enrollment has been very uneven from State to State. There were 10 States in 1968 in which 30 percent or more of all undergraduates were enrolled in 2-year colleges. In another 14 States, students in 2-year institutions accounted for 20 to 30 percent of undergraduate enrollment. A dozen States had from 10 to 20 percent of their undergraduates enrolled in 2-year colleges, while in the remaining States the proportion was less than 10 percent.

Among the most important barriers to the development of community college systems by some of the States are the following: (a) lack of an ade-

quate State plan to guide the development of community colleges, (b) low population density, (c) low per capita income, (d) little or no State financial support for community colleges, and (e) the existence of several competing types of 2-year institutions in the same State, including existing community colleges, 2-year branches of universities, and vocational or technical institutes.

Occupational programs in community colleges are constantly increasing in scope and variety. The larger and more complex the labor market, the more varied the occupational curriculums of the community colleges are likely to be.

Although most students were enrolled in transfer programs in the 1960's, there was an increase in the proportion of students enrolled in occupational programs in the same period—from slightly more than a quarter of all students to perhaps one-third or more.

Technological change is likely to be as rapid in the next few decades as it was in the 1960's. To adapt to this change, the average adult may have to shift his occupation three or four times during his work life and undertake continuing education at various intervals to protect himself against educational and occupational obsolescence. Moreover, outservice training is becoming the most prevalent type of employer-sponsored training, and much of this training is provided by institutions of higher education, including community colleges. Not all outservice training is aimed at upgrading the individual's specific occupational skills. In many communities throughout the Nation, for example, outservice training is being provided in community colleges for policemen and firemen to give them a broader understanding of community problems.

Occupational programs must be available to offer a wide variety of courses designed to prepare students for the world of work. These should include 2-year associate degree programs, 1-year certificate programs, and short-term training and occupational renewal programs. Flexibility in the offerings must be sought so that occupational programs will adjust to changing manpower requirements; and a career-ladder approach, which will enable the student to obtain more advanced training as a working adult, should be encouraged.

In addition to Federal and State manpower advisory committees, there is a need for local manpower advisory committees in urban community college districts, composed of employer, union, government, and minority-group representatives. Occupational programs should be responsive to local requirements for specialized manpower as well as to State and national trends. There is also a need for more effective coordination of the employment counseling and placement services of the community colleges with the public employment service and other public agencies.

Continuing educational programs for adults should include not only occupational courses but also courses designed to provide for general educa-

tional development. In addition, community colleges should become centers of cultural enrichment, especially in communities which do not have such amenities as symphony orchestras, museums, and dramatic productions.

The Carnegie Commission on Higher Education has recommended coordinated efforts at the Federal, State, and local levels to stimulate the expansion of occupational education in community colleges and to make it responsive to changing manpower requirements. Continuing education for adults, as well as occupational education for college-age students, should be provided.

Nothing has been said thus far about the "older" community college student—and many are beyond the recent high school age bracket. Some are enrolled full time, taking a regular program in academic or technical-vocational courses, others are doing the same on a part-time basis, and still thousands of others are pursuing a part-time program in conventional adult education courses. A paucity of information exists about most of these older students, particularly the ones attending part time. That they have jobs and family responsibilities and are highly motivated goes without saying, but information about their various abilities, interests, and intellectual predispositions is still needed.

SPECULATIONS ON THE FUTURE OF ADULT EDUCATION AND LEARNING

A major problem for a speculative exercise on the future of adult education and learning in the U.S.A. is to define the scope of our inquiry. (The distinction between adult learning and adult education cited in part I is useful to this speculation.) Adult learning is considered a major, continuing mode of adult behavioral change. It permeates human experience and occurs in all major sectors of social activity. But not all adult learning is adult education, which we define as socially legitimatized learning activities. This means they are a target for the allocation of resources via public expenditure budgets. These are adult learning activities whose purposes—i.e., learning goals—are judged to contribute to some social need, goal, or function in such a way as to bring into play social sanctions and rewards. In the United States, for example, these social purposes have included occupational upgrading, a more productive economy, a more enlightened citizenry, better parents, informed consumers, or getting poor people off the relief roles.

Some models for the future focus on the *education* of adults. Other models are concerned with the broader and more generic concept of the *learning* of adults; e.g., the popular metaphor among educators of the full flowering of a learning society. But over the next 10 to 20 years, it is likely that adult education will *not* encompass all learning activities, but only those which possess some social priority, which are socially legitimatized.

In short, in a dynamic, reasonably open society still in transition, there may always be an uneasy balance and shifting compromise between adult eduction and adult learning.

Some Emerging Themes of Post-Industrial Society

Thus, our speculative problem is defined. Among the many emerging themes and problems of a post-industrial society in transition, which ones will become the target for educational programs for adults? Which ones will achieve the status of social attention and concern so that they become a matter of public policy, of institution building, of resource allocation, of social sanctions, incentives, and rewards? The point is that adult education is a *social* phenomenon, giving specific form and content to individual adult learing behaviors which have become viewed as socially legitimate expressions of human change and development.

Most researchers would agree that the primary social legitimation for adult learning has been located in the domain of economic activity . . . in vocational training, in occupational upgrading, in career education, and in professional renewal. Should we forecast a continuing emphasis on the production and consumption of material goods as the predominant theme of America's future? For several reasons, that would seem to be a risky proposition. Alternative themes for a post-industrial society are even now emerging. Which of them will achieve star status is difficult to forecast, because (1) they are not "independent variables," but mutually interact, and because (2) the development and more precise refinement of these themes will be influenced, in the long-run, by trans-national factors over which American society will have by no means unilateral control.

The following list of emerging post-industrial themes and problems is by no means exhaustive. Still, it is a first cut at outlining a future agenda for adult learning. That is, these emerging or durable social themes represent new or continuing challenges which call upon adults to learn. Some of these themes, as in the past, will reach a level of public consciousness so as to become the target for explicit social recognition, and thus the publically acknowledged business of adult education and public policy for adult education. It is not yet clear which of these thematic concerns will achieve star status. The list for a future agenda for adult learning—part of which becomes the focus for adult education—might include:

(1) The continuing problem of poverty in the midst of material affluence, which is a special aspect of the durable theme of distributive justice or social equity.

(2) The trend of a world bound together by the cement of transnational economic organization, electronic communication, the spread of urban ecology and potential ecocatastrophe, together with an appreciable increase in the gap between materially rich and poor nations.

(3) The alternative uses and meanings of affluence. The issue is the erosion of personal satisfactions co-incident with rising material abund-

ance of goods and services. Historically, the quest for material affluence has been accompanied by a wide spread sense of social alienation, and personal discontent and anxiety. Affluence may become redefined as the opportunity for personal rediscovery and renewal, for developing a sense of personal effectiveness and human authenticity outside the framework of "getting and spending." Still, there would remain the critical issue of how these opportunities might be distributed among different socio-economic groups . . . perhaps a question of the redistribution of work and leisure.

(4) The emergence of a science and technology of human behavior based upon greatly expanded power for genetic manipulation, for control of the autonomic nervous system, and for chemical and physical intervention into the historically sacred domain of "mind," "will," "intentionality," and "personality."

(5) The seeking after alternative lifestyles within a future society whose mass institutions of formal youth education, pervasive electronic communications, and large-scale bureaucratic organization maintains a powerful homogenizing and determining effect on systems of belief and social aspirations. Increasingly uniform early socialization and schooling would transform the durable social issue of uniformity vis-a-vis plurality and diversity, from the old "melting pot" myth, engendered during America's period of large-scale immigration, to a new social tension caused by a deliberate seeking among youth for diverse lifestyles.

(6) The issue of decentralizing large-scale government so as to provide opportunities for citizens to participate in social invention and public policy formation in an era when all social issues and problems, national and trans-national, tend to take on the character of macrosystems no longer amenable to individual, small group, and community intervention.

(7) The transformation in the meaning of work, engendered partially by trends implicit in (3) and (5) above, partially by impacts of high technology on occupational requirements and economic organization.

(8) The redefinition of minimum levels and contents of functional literacy in a society in which the capacity to use knowledge and manage information (including its discard, rejection, production, and retrieval) becomes a major requirement for cognitive skill training.

Alternative Modes of Adult Response to Challenge

We may regard this partial list of emerging post-industrial themes as challenges. By this, we mean only that some—but not all—inherited institutional structures of adult roles and expectations, and their supporting systems of legitimizing beliefs, will appear inadequate to meet new conditions. The "challenge," then, is to adults to modify their behaviors—to change

their ways of thinking, feeling and acting. But there is no certain formula for ensuring that the adult response will continue to be one of learning.

For learning is by no means the only way human beings can respond to change, challenge, even crises. So confronted, people sometimes retreat into tradition. Sometimes they revert to mindless violence. They can withdraw from active social engagement into passive acceptance of change. All these modes of behavior exist, and probably will continue to do so. But throughout his history, the adult in the U.S. has displayed a rather remarkable capacity to learn new ways of thinking, feeling, and acting. Indeed, the history of the United States can be reasonably viewed as the historic development of a vast array of institutions and belief systems in which *learning is positively encouraged and built into role expectations and self-definitions.* Will that development continue into a future in which the rate of change, the impact of challenge, and the urgency of crisis increase? It would seem highly desirable that a pervasive social milieu conducive to adult learning should continue into the future. Whether or not it will—i.e., to what extent and under what conditions—and what educational forms it will take is, of course, the focus of a concern about the future of adult education.

Three Premises for Forecasting the Future of Adult Education

Any speculation about the future should articulate at least three claims. The first states a relationship between future and past. The second defines the domain of the inquiry. The third asserts certain historical propositions. These are the premises of the argument. They attempt to ground the forecast in human experience in such a way that the *reasons* for the speculative content are known, and can thus be subjected to reasonable critique and revision. These claims, in effect, are the premises of our speculation.

(1) *The Methodological Premise:* Here, we assert that there is more than one future system of adult education open to invention and decision. It is possible to conceive of a number of *alternative* futures, varying as to purpose, program/content, and structure. For the future is the product of human imagination which need not, in the first instance, be limited by questions of possibility. Not all desirable futures are possible, of course, but some are. To limit their conception by the practical lessons learned from past experience is to suggest that the future cannot in any significant way escape the limits set by past experience. That is not a belief we chose to encourage. But this premise sets a special problem for forecasting.

We would argue that the future will reflect a complex series of decisions about which a number of possibilities may be brought about through the invention, formulation and implementation of wise public policies. Two further implications of this premise must be dealt with.

First, public policy can deal with education—and thus, adult education —much more easily than it can deal with learning. Learning is a highly complex human behavior, fundamental to human biology. Our understanding of it is imperfect. Clearly, however, it takes place under conditions not

all of which are either possible or desirable to control and manipulate. Education has to do with learning, but only certain kinds. Education has goals, contents, methods, structures, all of which can be, to some extent, modified by public policy. Much, indeed most, of adult learning in the United States has never been considered part of a public educational system of goals, contents, methods and structures. It has not been a target for public policy deliberation. The learning of youth, of course, is a different matter. For over a hundred years, public policy has been based on an evolving consensus in society to channel the learning of youth through a formal system of schooling —to develop, in other words, a front-loading system of education for youth, as distinguished from education through the lifespan.

One major question about the future of adult education is whether or not American society, through its governments and policy instruments, should develop a general *public policy* about education of all adults. It never has. But that does not mean it cannot, should not, or won't. Policy is always about the future, however much it is seen to be constrained by the past. Among the kinds of emerging social themes and problems described in the previous section, policy for adult education will have to determine which, if any, are so critical as to become the target for adult education.

A second consequence is the question of what we mean by enlightened or wise public policies which choose among alternative futures. This means, who participates in the formation of these policies and who judges their wisdom. This is not only a philosophic issue. Historically—with certain important exceptions—the United States has relegated the question of public policy about adult education to the private decisions of innumerable individuals, organizations, and institutions. The total domain of adult learning has not been brought into the formal deliberations of constituted public policy institutions. In the last 25 years, this approach has been modified by the formation of specific public policies at the Federal level, followed by policy interventions at the State level.

These policies have sought to encourage certain kinds of learning behaviors for specific groups of adult learners. One kind of learning behavior encouraged as a matter of public policy had to do with the decision in the 1960's to begin a "war on poverty." Adult education was seen as a vehicle to encourage and support the acquisition of basic literacy and work skills for that large section of the population who, for reasons of racial or social class discrimination, had been unable to complete formal schooling through high school and who were unable to participate in the main stream of society. A whole range of instrumental programs in the field of adult basic education and manpower training were inaugurated at the Federal and then the State and local levels of government. At this stage, these programs have not yet effectively eliminated material poverty from society. But can any kind of adult education program calculated to develop specific attitudes and skills for job acquisition and maintenance offset macro-economic factors which affect levels of unemployment and underemployment in the

society? The durable issue of social equity and distributive justice in a materially affluent society will require continual address, redefinition, and search for more effective pry points in the future. That search may require the severe modification of existing adult education programs and the creation of new ones directed at this pervasive issue of equality.

A second major adult learning behavior encouraged both directly and indirectly by public policy had to do with occupational and professional upgrading of middle and higher level work skills. In the 1950's, the Federal Government initiated such a program for its civil servants through the Government Employees Training Act. Even before then, however, the industrial and corporate enterprise in the United States was given indirect support in the upgrading of its work force by allowing the direct costs of instruction for a wide variety of training programs to be written off as business expenses prior to the payment of Federal and State taxes on business profits.

It is interesting to note that these federally initiated and supported policies were directed at that aspect of adult learning which could be understood as contributing to the continuing economic activity of the society. They thus tended to confirm the larger historic tradition which has equated much of adult learning with the maintenance of the economic theme of American society, whether on the grounds of remediation to bring lower income and disenfranchised groups closer to the national norm for levels of formal educational attainment and manpower utilization, or on the grounds of upgrading and/or retraining the larger employed group to meet new skill requirements engendered by technological impacts on industry and business.

(2) *The Historical Premise*: Adult education and learning in the United States has constituted a non-systematized response of human beings and institutions to a wide range of changes in the larger society and, indeed, the world. It has constituted a remarkably powerful though largely unsung response to major forces of social change unleashed by the industrial and scientific revolutions during the middle of the 19th century. Scores of millions of adults learned to develop new skills and new understandings and to acquire knowledge commensurate with the political, economic, and social birth and maturation of a major, *new* nation.

This learning was haphazard in the sense that it was not a consciously directed affair, but rather the result of spontaneous participation in the day-to-day activities of the society. It was nonsystematized. It took place wherever and whenever adults congregated under conditions which encouraged or required a learning approach to the new situations of work, politics, immigration and nation-building, upward mobility, urbanization, and feeding a rapidly expanding population. But the educative activites of adults in the United States have never been encompassed within a highly structured and comprehensive system, as distinguished from the development of a massive school system for youth.

In the middle of the 19th century, the United States embarked upon the development of a massive, formal system of schools—and later colleges—for

youth. Public policy opted for a system of preparatory education rather than a flexible, open-access system of continuing education through the life-span. This lack of a formalized system gives to adult education and learning a highly potent, flexible, and at the same time unregulated character. This historical premise makes forecasting its future state highly problematic.

One result of this unregulated, non-compulsory character of adult learning is the lack of adequate documentation about the educative activities of scores of millions of adults. Estimates of the number of adults who engage in learning range from a low of 20 to a high of 60 or more millions. The figures are too ephemeral to provide an adequate base for projection of this participation. Some recent research does tend to confirm the historical premise that adults spend a great deal more time in deliberate learning projects—among a small group of intensively-interviewed adults, an average of 700-800 hours per year—than has generally been assumed. Much of this learning evidently constitutes the purposeful acquisition of new knowledge and skills in a self-directed fashion outside an institutional framework of adult education. Since much of it does not take place within the formal system of credits, certified teachers, and accredited institutions, it has so far defied systematic description and explanation.

However, there has also been a rather rapid growth in the last 20 years in adult participation in systematized instructional activities and formal learning environments—i.e., *those constituted specifically for the purposes of the teaching and learning of adults in clearly defined content areas*. Here, we refer to the plethora of formalized, instructional activities carried on by the adult service arms of schools and colleges, both on location and at extension outlets, by correspondence, by industrial, corporate and governmental organizations for their employees, by churches, voluntary organizations, educational television (both commercial and public networks), by community service facilities like museums and libraries, by professional associations of lawyers, doctors and engineers, by labor unions for their members, and by community action organizations.

We possess only partial and suggestive data about the specific dimensions and character of these organizational responses to adult learning needs. Moreover, there are important differences among these formal learning environments which are constituted primarily for instructional purposes. Some of these environments are organized within the core system of schools and colleges, offering adults instruction for credit, leading to certificates of level of educational attainment like high school diplomas (or their equivalents) as well as baccalaureates and professional degrees. Adult participation in for-credit instruction constitutes, however, a small category of adult learning behavior.

But higher continuing education for adults also offers a great variety of programs in which no traditional educational devices of standardized examinations, State-certified teachers, degree-credits, and the like are involved.

Since these control mechanisms are central to the core system of schools and colleges, it is difficult to describe even the formal learning environments of adult education as a "system."

Clearly, then, this historical, non-systematized development of adult education and learning forces us to consider a third, major premise which might enable us to speculate more reasonably on future developments. This approach, resting on a view of *learning through the lifespan,* requires us to consider in what ways social, economic, scientific/technological and normative changes might affect adult education and learning.

(3) *The Imbeddedness Premise*: The arguments set forth so far lead to the proposition that the educative activities of adults in the United States have represented both adaptive and inventive learning responses to a national society in *transition*. The learning of adults has been imbedded in this society, in its economic, social, and political institutions, in a manner exactly the opposite from the learning of youth, which has in the last 120 years become encompassed in a system of formal schooling kept separate from "life" because it has been considered a preparation for it.

To conjecture about alternative directions for adult education is to explore the continuing capacity of our citizens to maintain their learning mode of response to the many complex issues of stability and change contesting furiously in the mental and emotional life of human beings caught up in an age of transition. To adequately describe, much less understand, society's transition to a post-industrial society, constitutes a herculean intellectual task. Neither academic research and scholarship nor practical wisdom are yet adequate to a comprehensive understanding of what is happening in the world. Among social scientists, forecasters, and outlook agencies, there is little agreement about the shape of things to come. Among citizens of all classes, creeds, and colors, there is decreasing agreement about the content of a desirable future. But even if we could assert with any certainty that we know what the populace of the United States considers a desirable future, there is considerable question that we would know how to bring it about. Still, there are some indications that in the future, a much expanded vision of the complex pervasive relationship between adult learning and social change might produce a new emphasis on the education and learning of adults.

Learning Throughout the Lifespan

In a modern, highly interdependent, industrialized, and affluent society, the primary condition which precludes the development of an extended, open-ended, in-and-out system of education throughout the lifespan is a widespread social belief that formal education—as distinguished from learning—should cease at that point which separates youth from adulthood. Such a consensus has apparently developed in the United States since the inauguration of the public school movement over a century ago. A demonstration of the power of this belief lies in the historic fact that in little over

a century, a system of universal, formal schooling has been constructed at immense cost in human and financial resources as a matter of public policy to a point where 95 percent of youths between 14 and 17 years of age are enrolled in schools, 80 percent graduate with a high school diploma (12 years of formal schooling), and over one-half of these continue directly upon graduation into some form of degree-credit instructon in higher education. A second demonstration of the power of this belief is the fact that most public policies aimed at adult education have emphasized the remedial or "make up" justification for the expenditure of public funds in this area.

There are reasons to believe that the widespread belief in the efficacy of preparatory schooling is diminishing. One reason is the sharply increasing disagreements among and between both youth and adults about the age at which adulthood commences. Since the end of the Second World War, the legal, political, economic, social and physiological/psychological benchmarks for adulthood have been moving downwards into what were previously considered the years of adolescence.

A second reason is that as the vast majority of youth graduate from high school, and as more high school graduates enter higher education, the relationship between level of formal educational attainment and economic earnings over the lifespan tends to decrease.

A third reason is an incipient recognition among adults who teach and administer in the core system of schools and colleges that they lack the prophetic and practical wisdom to judge how to prepare youth for a future society, some of whose characteristics will most likely exhibit significant discrepancies with the past. Social definitions of the responsibilities and tasks of adult roles are changing rapidly and will probably continue to do so. This is challenging our belief in the efficacy of a system of formal schooling of youth designed to prepare them for adulthood.

A fourth reason is the rapid evolution in an affluent society of those technologies which impact directly on all citizens, particularly in the areas of physiological, psychological, and social health, and which therefore require continuous professional and para-professional upgrading to reach socially demanded levels of competence and the increasing calls for more effective delivery systems.

A fifth reason is the apparently growing recognition that the functions and meaning of work are undergoing social redefinition under the impact of high-technology (automation, computerization, cybernation) which tends to even further alienate the worker from the product of his effort. It is becoming less and less obvious that schooling is an adequate way to prepare young people to enter the world of work, since that world is now fraught with social problems for which rote skills and capsulated knowledge are held to be increasingly irrelevant.

A sixth reason is a growing sentiment to separate the holding of a job from the acquisition of minimum standards of economic security. It seems quite likely that in this or the next decade, the rights of citizenship will in-

clude a guaranteed minimum standard of living irrespective of any other social characteristic, including successful completion of a formal schooling experience.

A seventh reason is a slow but steady erosion of the notion that education and schooling are the same phenomenon, buttressed by the rather recent but potentially exponential increase in teaching-learning technologies—both human and electronic—which break assunder the walls of the traditional classroom environment.

An eighth reason is a growing sentiment which challenges the linkage between educationally acquired and standardized certificates of competence and the multiple roles of adult lifestyles which an affluent society can apparently begin to afford. We are learning that competencies for diverse adult roles can be acquired through a variety of human learning experiences, not all of which the formal education of youth should attempt to provide.

None of these reasons, by itself, is powerful enough to break the traditional system of schooling for youth with its age-graded, sequential, lockstep, standardized curriculum and methods. Taken together, however, they may be considered early warning signals that one chief characteristic of an emerging, post-industrial society may be a transformation of its education system into a highly complex, variegated structure of multiple learning opportunities and environments, gradually extending over the lifespan with a slow but concomitant reduction in the intensity and duration of schooling for youth. Such a result of major shifts in noneducational factors over the next several decades will require a very careful public reexamination of the content of a minimum curriculum for all members of society in their socialization experience. What that minimum set of skills, attitudes, and dispositions will be is difficult to forecast. One disposition, however, whose future utility should be unquestioned is the intellectual skill and emotional disposition to actively seek opportunities for learning throughout the lifespan. The most powerful indicator we know for predicting entrance into adult learning activity is a successful experience in formal schooling during youth. That indicator suggests at least one crucial element in the minimum curriculum, which is learning how to learn in such a way that the learning disposition becomes ingrained and difficult to excise from the personality as it develops and matures.

Conclusion

There is little contained in the foregoing speculations which directly addresses the major issue of which aspects of adult learning will or should become enclosed within an emerging system of adult education, characterized by its more formal and systematic approach to achieving specific educational goals. Moreover, there also remains the question of whether or not, and for what reasons, a more mature and comprehensive public policy for the education of adults is called for.

That analysis has yet to be undertaken. At this point, it appears that the variety, time and place, intensity and scope of adult learning must increase in direct proportion to the pace of social change. Moreover, some, but not all, of the multiple needs and purposes of adult learning will undergo social recognition and legitimation to the ex nt necessary to bring forth encouragement and support through appropriate public policies. So far, the agenda for public policy in this area has been very small compared to the actual size and scope of adult learning. The content of a public policy agenda for adult education has yet to be set forth by any person or agency in detail sufficient to facilitate comprehensive analysis and commend approval. But whatever that content turns out to be, it seems almost certain to be associated with the emerging central themes and issues of a society in transition, one of which is a new and happy concern with the question of who and what education is for.

Summary

The history of the U.S.A. can be understood as the attempt to manipulate, change, and rework the human environment. The future history of the United States will also mean a changing human environment in which continuous learning throughout the lifespan will represent an essential ingredient for personal survival, effectiveness, and human authenticity.

Adult education in the United States is local in nature. It is not a division of a national ministry of education, administered by the central government, but rather a complex mixture of private and public, national and local organizations operating under the law of supply and demand. It is a strong force in helping U.S. citizens govern themselves, but it is not an authoritative arm of the Federal Government. The Federal Government helps to shape national policy in adult education, not by fiat, but by leadership and some financial assistance.

This situation, which differs from the role and direction of adult education in many other nations, should be kept in mind as the reader interprets this report on one of the United States' most turbulent decades.

Mass communication is an aspect of American life difficult to describe, because it relates primarily to adult learning rather than to adult education. However, its effect on adult education must be understood.

Dissemination of information and opinion and advocacy in the United States is conducted on a vast scale. The variety of materials broadcast and printed is impossible to catalog. Broadcasting is so pervasive that most citizens receive each day hundreds of items of information and persuasion. There is probably less control or central direction of this activity than in any other developed nation. There is no national, government-operated broadcasting system. Freedom of the press permits widespread advocacy of minority views.

An understanding of America's communications apparatus brings one to the problem of separating information from knowledge, of differentiating between learning and being taught, and of illuminating the complicated relationship between these.

In a national survey conducted in 1971, it was estimated that 21.2 million adults (10 percent of the population) lacked reading skills at the "survival" level. A national adult education research project is currently being conducted to determine the performance requirements for adults in a post-industrial society. These requirements will be described in terms of reading, writing, computational, and coping skills.

Adult education has been a strong factor in raising the expectations of

the disadvantaged, and it has also been a tool in meeting some of these new expectations. It helped create a widespread desire for self-fulfillment, a feeling that there should be more to life than producing products and consuming them, and it helped millions of citizens toward this fulfillment.

Minority groups asked for their fair share from our society. Such movements as women's liberation, day care centers for children, and neighborhood control of schools were among the results. So were the "underground press" and free universities.

Two educational concepts grew stronger during the decade—career education and lifetime learning. The concept of career education is not based merely upon a need for new job skills but upon a recognition that for most of our citizens a meaningful and productive work experience is essential to self-fulfillment. While the concept of lifetime learning recognizes the immediate need of many persons to up-grade their skills, it also seeks to serve the need of all to understand adult experience and thus increase our knowledge and ability to govern ourselves.

Adult education is organized in many communities in connection with the elementary and secondary school system. In a few communities, this may be the sole source of adult education, but in most, a wide variety of organizations provide adult education. These include employers, churches, unions, military service schools, colleges, public libraries, correspondence schools, community agencies, and a wide variety of professional, proprietary, and voluntary institutions. Adult education assumes such varied forms as courses taken for credit, informal instruction, on-the-job training, correspondence study, and discussion groups or demonstrations at home, in the shop, in the field, or in the office.

Most adult education programs are conceived and organized separately from educational programs organized for children, young adults, or full-time college students. However, there has been a growing trend since 1965 for the elementary and secondary school system, the community college, and the university to accept greater responsibility for planning, organizing, coordinating, and staffing local adult education programs.

Federal involvement is massive, unorganized, and multipurposed. It has grown rapidly over the past decade without having been given a conscious sense of direction. It is the result of many different laws, administered in different ways by many different departments and agencies of the Federal Government. Yet there are some common strands which help explain what exists and which help reveal both strengths and deficiencies.

One such strand is the pronounced legislative concern with disadvantaged elements in our society. In an effort to promote social mobility, Congress has enacted a broad band of extension and continuing education programs addressed to those less able to compete for economic standing and educational attainment. This legislative emphasis has been reinforced by Federal administrative policy and paralleled by changes in practice and policy on the part of many institutions of higher education.

No single agency of the Federal Government today has central responsibility for the interaction between the Federal Government and institutions of higher education, yet all major departments and agencies have a continuing relationship with colleges and universities. As a result, several agencies may be engaged at any given time in important forms of collaboration with the same educational institutions.

Constant interaction with universities is an important element in the functional responsibility of many government agencies. Much of this interaction is closely tied to the mission of an agency; consequently, responsibility for dealing with colleges and universities cannot be conveniently assigned to some central agency of Government. What is required is not a monolithic Federal presence on the university campus but a coordinated one. Today there is no "Federal" presence, merely the presence of Federal agencies acting independently of each other.

All signs indicate that university-Federal agency interaction will continue to increase. Although this interaction has produced abrasions and mutual frustration, it has also proved mutually advantageous. Universities need Federal funds and the opportunity for scholarly involvement in Federal programs relevant to institutional purposes. In turn, colleges and universities are an invaluable resource in support of objectives sought by Federal agencies.

As adult education administrators are required to do more, they are subjected to more concerted pressures from political leaders, the courts, the public, and their own administrative hierarchies. As government programs increase in volume and scope, the administrators experience greater difficulty in relating their functions to numerous others which impinge on their particular responsibilities. When increasingly the needs of local and State governments require understanding and support from the Federal level, the existing forms of interaction reveal more sharply long-present inadequacies.

The increasing number of Federal executive agencies concerned with domestic problems, particularly in the areas of education and social welfare, has brought the Federal Government closer to local communities, than at any time in the past. At the national level, Federal programs appear mammoth and sprawling; but at the local level their size may take on more manageable dimensions. Control and "ownership" of these programs consequently become volatile issues, and they become exceptionally so when these programs touch closely on basic social issues, expectations, and frustrations. The dangers of politicizing these programs at the local level are real, and what once may have been conceived as a "community" is transformed into a "constituency."

There are hundreds of private schools which provide career education for a fee, and many adults pay tuition to take courses at educational institutions in their spare time. It is estimated that learners pay a major fraction of the national bill for adult education. An exception to this general policy is the adult basic education program or the national literacy effort in which the

Federal Government, by law, provides 90% of the cost. Through the Congress, the Nation has taken the position that every citizen should have access to the equivalent of a secondary education. It may be that the principle of a free public elementary and secondary education, deemed necessary to keep the United States' society viable, will be extended to the principle of life-long access to free learning to retain this viability in the increasing complexity of our society. Many of the programs and expenditures of tax monies to provide job training and other compensatory programs for the victims of discrimination will move the country closer to free education at every stage of life.

Until the last decade the field of adult education lagged behind other educational fields in the number of international exchanges of practitioners and professors, in participation in international organizations, and in international studies. Adult education may still be behind, but in the last 10 years significant strides have been made. Indeed, one important trend in adult education is its increasingly international character.

Adult education in the United States needs more trained career-oriented personnel. The shortage can be validated by present enrollment and participation figures in such programs as public school adult basic education, college and university extension, retraining programs in business and industry and in continuing education programs of professional associations and organizations. It can also be documented with evidence of the scope and nature of the problems of undereducation, poverty, rapidly changing professional job markets, increase of time for life-long learning and leisure-time activites, and the urgent necessity for environmental understanding and conservation.

Over the past few years, national, regional, and State programs have been initiated to provide and prepare leadership and personnel for some of these adult education programs and activities. However, there remains a significant and varied number of gaps and shortages in adult education personnel.

The college or university has provided most of the training for adult educators, particularly land grant State colleges. There are approximately 75 institutions of higher education which provide master and/or doctoral level programs in adult education. In the past 2 years, 16 colleges in the Southeast have established either undergraduate or graduate programs for teachers, teacher-trainers, and managers with Federal support.

Community colleges and special institutes operated by colleges and universities have trained thousands of teachers, teacher-trainers, and administrators in adult basic education since 1964. However, most of these efforts have been designed on an emergency basis with little systematic followup. Also, these institutes and conferences have served part-time personnel in most cases. The universities in their degree-granting programs have prepared full-time personnel.

Many other government and private groups have funded and organized

their own short courses and institutes of training or retraining. But again, the universities have been called upon to provide much of the training in educational techniques for the adult educator.

Rising levels of educational attainment have probably caused a number of the shifts in employment requirements. One of our major goals has been to increase educational opportunities for all groups in the population. Accordingly, the educational level in the United States has been increasing rapidly in the recent past, and this increase is likely to continue. As recently as 1952, for example, about two-fifths of the employed males who were at least 18 years old had completed 8 years of schooling or less. By 1964 this proportion had declined to slightly more than one-fourth. While the upgrading of educational achievement has been generally characteristic of the labor force, it has been especially marked for blue collar workers and farmers—the occupations which have provided the bulk of the employment for persons with less than a high school education. As a majority of the employees in these occupations come to have at least a grammar school education the individuals with lesser schooling will be at a disadvantage in obtaining employment.

With continued progress in education over the next decade, by 1975 it is likely that only about a sixth of the employed persons will have received an education amounting to 8 years of schooling or less. The proportion of the labor force with 4 years of college or more is projected to increase, but at a somewhat less rapid pace—from a tenth of the total in the early 1960's to a seventh in the mid-1970's. As the supply of well-educated, or better-educated persons increases in virtually all occupational fields, the greater availability of these persons to employers itself becomes an important factor in raising entrance requirements for many types of jobs.

As the occupational composition of the labor forces changes in the coming decade, the significance of career education in job preparation is likely to become even larger than at present. The relevant training for white collar and service jobs involves an emphasis on developing a broad base of cognitive, communicative, and social skills—skills acquired through career education. Within industry, automation tends to shift employees' duties from work as operators of machines to work as monitors of complex controls adjusting flows of inputs and outputs. The requirements for these types of positions are judgment, reliability, adaptability, and discipline rather than technical expertise.

The new programs in manpower, the expansion of facilities in higher education, and the search for new directions in vocational education increase our society's flexibility in pursuing many goals by making it possible to assure a more adequate supply of labor in occupations required for high priority national objectives. In addition, a better educated and more skilled population would facilitate pursuit of all goals by increasing the productivity of the labor force. Consequently, the greater educational opportunity

which furthers the Nation's social goals by reducing the prevalence of illiteracy, poverty, and unemployment also encourages economic growth.

During the last few years there has also been a radical shift in the role of the Federal Government with respect to education—from a position of non-interference and non-support to increasingly heavy involvement. With substantial Federal funds flowing into education at all levels, Federal policymakers have begun to ask penetrating questions about the relevance and productivity of the total national education effort. The concern of the Federal Government with education has been heightened by its awareness that the poorly educated are likely to be unskilled and that the unskilled encounter difficulties in getting and holding a job that will pay a living wage.

The U.S. Commissioner of Education has called for a thorough restructuring of the public school curriculum to place greater emphasis on career orientation and preparation. With respect to higher education, there is mounting evidence of public concern about the large and still growing number of college students, a high proportion of whom start their college studies only to drop out.

Among the estimated total U.S. population of 130,314,000 persons age 17 and older, 10.1 percent participated in adult education, 8.1 percent were full time students, and 81.8 percent did not engage in any formalized education during the year ended May 1969. Of the 119,719,000 eligible population (i.e., excluding full time students), 11.0 percent participated in adult education.

Although women outnumbered men both in the total population age 17 and over and in the population eligible for adult education, more men participated in adult education; 12.6 percent of the eligible men took adult education, compared to 9.6 percent of the eligible women.

Blacks were 9.7 percent of the total population age 17 and over but only 7.5 percent of the total number of participants in adult education. Whites comprised 89.3 percent of the total population but represented 91.5 percent of the total participants.

More than half of all persons age 17 through 24 were students, with 40.5 percent studying full time and 10.7 percent participating in adult education.

The rate of participation in adult education dropped from 18.2 percent of the eligible population under age 35 to 7.7 percent of those age 35 and over. Except for the youngest age group, 17 through 24, nonparticipants were fairly equally distributed for all age categories.

For those under age 35, 24.1 percent of the eligible white men participated in adult education, while 10.9 percent of the eligible black men took adult education. In comparison, 14.8 percent of the white women and 13.2 percent of the black women participated.

Of the total participants in adult education, white men age 25 through 34 comprised the greatest percentage, 18.1; and of these, the greatest percentage, 37.7 were in job training.

The three most popular sources of adult education showed little difference in utilization by the estimated 13,150,000 participants; public or private school, 27.7 percent; job training, 27.5 percent; and college or university part time, 25.2 percent. Participation in the remaining instructional sources was much less; community organizations, 13.4 percent; correspondence courses, 8.0 percent; tutor or private instructor, 5.8 percent; and other adult education, 10.3 percent. (The totals add to more than 100.0 percent due to multiple participation.)

The growth of increased leisure time can be equated fairly close with the growth of adult education activities designed to enrich the mind and spirit rather than the pocketbook. Adult education in the classroom and the lecture hall did increase as income went up and working hours went down. Many forms of self-fulfillment became increasingly available to more and more citizens in the 1930's. However, it was only in recent years with greater affluence and increased leisure that such educational activities became widespread in the United States.

Adult educators must concern themselves with the individual's quest for identity, the quest for community, the proper uses of fraternity, the assumptions which underlie problems created by bureaucratic behavior, and the re-education of persons in human relations.

The National Endowment for the Humanities created as a Federal agency in 1966 has maintained that effective educational programs for the general public should be channeled through all institutions and agencies that have an educational mission. Thus it has made grants to television stations, newspapers, libraries, museums, as well as public schools and institutions of higher education.

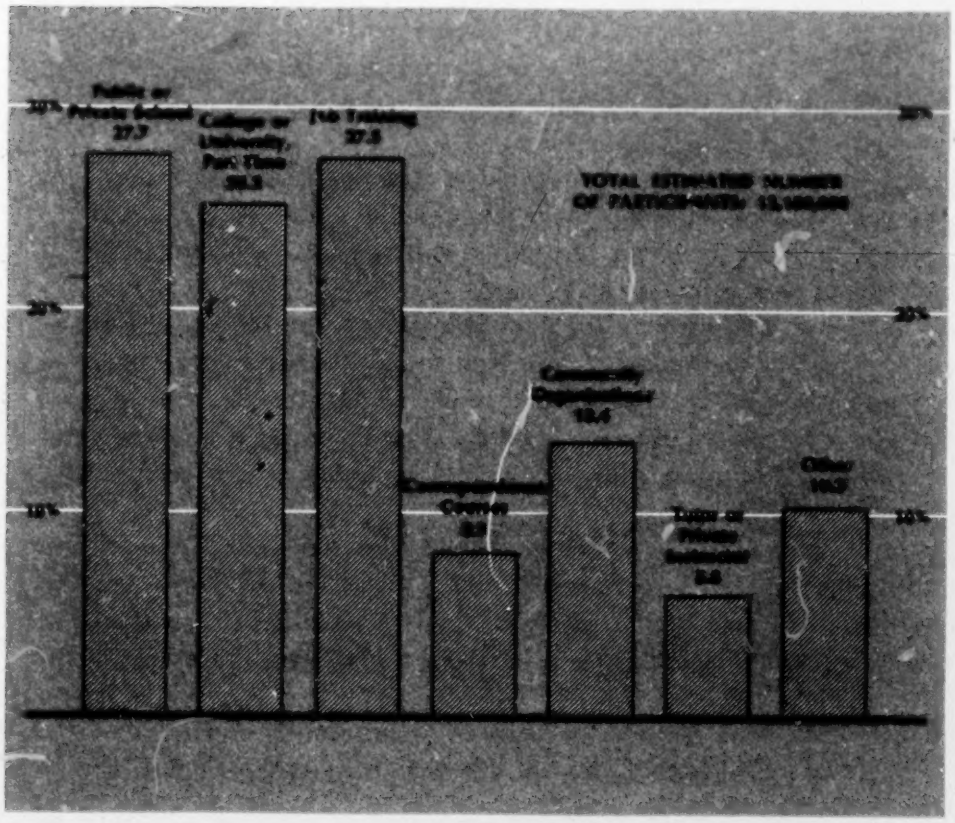
The term "humanities," as defined in the National Foundation on the Arts and the Humanities Act of 1965, includes but is not limited to the study of the following: "language, both modern and classical; linguistics; literature; history; jurisprudence; philosophy; archeology; the history, criticism, theory and practice of the arts; and those aspects of the social sciences which have humanistic content and employ humanistic methods." The Endowment is also authorized to support "the study and application of the humanities to the human environment."

As we move into the "seventies," the stage is set for massive growth in adult education. To a considerable degree there seems to be a readiness to call on the services of adult educators, a readiness which stems from several decades of careful attention to developing methods appropriate and successful for adult learning. Adult educators seem eager to employ new devices and to incorporate research findings in their programs. The limitations are largely those of finance, lack of access to the products of the new technology, and lack of training in their use. The fragmentation that has plagued adult education in the United States from its inception is still present, but a common concern for effective methods constitutes one of the major forces linking the field—and one of the brightest hopes.

Appendix

CHART I

INSTRUCTIONAL SOURCES OF ADULT EDUCATION UTILIZED BY PARTICIPANTS, IN PERCENTS: [1] UNITED STATES, May 1969 [2]



[1] Percentages total more than 100.00 due to participation in more than one instructional source of Adult Education.

[2] Imogene E. Okes, Participation In Adult Education 1969 Initial Report. Washington: U.S. Government Printing Office, 1971. U.S. Department of Health, Education, and Welfare, Office of Education: (Bulletin 1971, No. H.E. 5.213:13041), p. 19.

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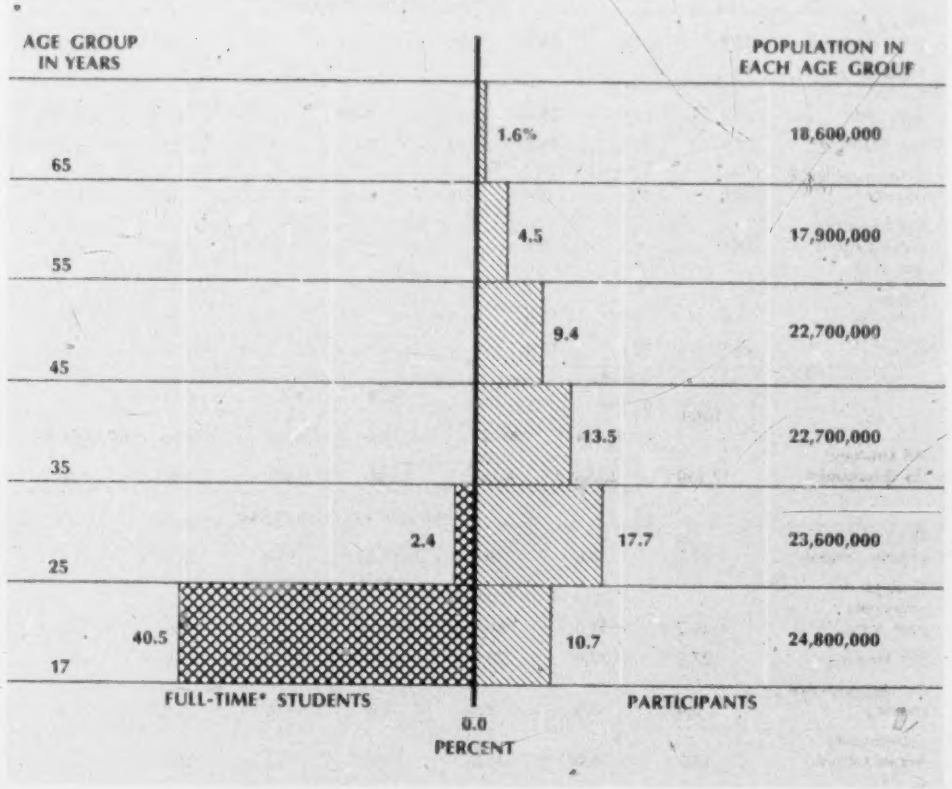
CHART II

ADULTS AS FULL-TIME STUDENTS OR PARTICIPANTS IN ADULT EDUCATION, AS PERCENT OF TOTAL POPULATION, BY AGE GROUP: UNITED STATES, MAY 1969[1]



* Persons age 35 and over were not asked if they were Full-Time students.

[1] Imogene E. Okes, Participation In Adult Education 1969 Initial Report. Washington: U.S. Government Printing Office, 1971. U.S. Department of Health, Education, and Welfare, Office of Education. (Bulletin 1971, No. HE 5.213:13041), p. 9.

TABLE I

INSTRUCTIONAL SOURCES UTILIZED FOR ADULT EDUCATION AS PERCENT OF SEX, RACE, AND AGE GROUPS: UNITED STATES, May 1969 [1]

Instructional sources	Total	SEX		RACE			AGE	
		Men	Women	White	Negro	Other	Under 35	35 and over
All sources (in thousands)	13,150	6,898	6,253	12,036	981	133	6,852	6,298
		Percent [2] of column totals						
Public or private school	27.7	22.6	33.3	27.1	33.8	36.8	27.2	28.2
College or university part time	25.2	26.9	23.3	25.5	21.9	21.8	30.4	19.5
Job Training	27.5	37.1	16.9	27.4	28.7	21.8	28.3	26.6
Correspondence courses	8.0	10.7	5.0	8.3	4.6	4.5	9.3	6.6
Community organizations	13.4	8.3	19.1	13.6	11.4	15.8	9.4	17.8
Tutor or private instructor	5.8	3.9	7.9	5.9	3.3	10.5	4.6	7.1
Other	10.3	10.2	10.4	10.3	9.4	12.8	9.5	11.1

	Total	AGE GROUPS					
		17–24	25–34	35–44	45–54	55–64	65 and over
All sources (in thousands)	13,150	2,656	4,195	3,066	2,134	803	295
		Percent [2] of column totals					
Public or private school	27.7	28.6	26.3	28.0	30.0	26.2	21.7
College or university part time	25.2	31.0	30.0	22.4	19.7	13.0	5.4
Job training	27.5	27.9	28.5	27.8	27.4	27.5	6.1
Correspondence courses	8.0	8.9	9.6	6.8	6.7	5.2	6.8
Community organizations	13.4	6.0	11.5	16.6	15.2	20.4	42.4
Tutor or private instructor	5.8	3.6	5.2	6.9	6.1	8.1	13.2
Other	10.3	10.9	8.6	10.1	10.7	15.2	13.2

[1] Okes, Op. cit., p. 20.

[2] Percentages total more than 100.0 due to participation in more than one instructional source of adult education.
Note: Detail may not add to total because of rounding.

TABLE II

LEVEL OF EDUCATION: WHITE AND BLACK ADULTS [1]
Source: U.S. Bureau of Census

Race and Sex	Persons 25 yea.s old or older (1,000)	YEARS OF SCHOOL COMPLETED (percent distribution)							Median School Years Completed
		Elementary School			High School		College		
		Less than 5 years	5–7 years	8 years	1–3 years	4 years	1–3 years	4 years or more	
Total, all races, March 1970	**109,310**	**5.3**	**9.1**	**13.4**	**17.1**	**34.0**	**10.2**	**11.1**	**12.2**
Male	51,784	5.9	9.4	13.6	16.1	30.1	10.8	14.1	12.2
Female	57,52	4.7	8.8	13.1	18.0	37.5	9.7	8.2	12.1
White	98,112	4.2	8.3	13.6	16.5	35.2	10.7	11.6	12.2
Male	46,606	4.5	8.8	13.9	15.6	30.9	11.3	15.0	12.2
Female	51,506	3.9	7.8	13.4	17.3	39.0	10.1	8.6	12.2
Negro	10,089	15.1	16.7	11.2	23.3	23.4	5.9	4.5	9.9
Male	4,619	18.6	16.0	11.1	21.9	22.2	5.7	4.5	9.6
Female	5,470	12.1	17.3	11.3	24.5	24.4	6.0	4.4	10.1

[1] "Level of Education: White and Black Adults", Almanac, The New York Times, 3rd ed., 1972, p. 402.

TABLE III

EDUCATION AND INCOME: WHITE AND BLACK ADULTS [1]
Source: U.S. Bureau of Census

Median Income of Men 25 to 54 Years Old By Educational Attainment

		Median Income 1969		
		Negro	White	All Races
Elementary:	Total	$3,291	$ 4,529	$ 4,285
	Less than 8 years	2,973	3,613	3,429
	8 years	4,293	5,460	5,345
High School:	Total	4,748	7,890	7,578
	1 to 3 years	5,222	7,309	7,079
	4 years	6,144	8,631	8,434
College:	1 or more years	8,567	12,437	12,255

The chart gives median income of men 25 to 54 years old by educational attainment in 1969. For the first time, the median income of Negro men in this age group who have completed four years of high school is higher than that for white men in this group with only eight years of elementary school.

[1] "Education and Income: White and Black Adults", Almanac, The New York Times, 3rd ed., 1972, p. 402.

☆U.S. GOVERNMENT PRINTING OFFICE: 1972 O—468-583